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IN the letter recently circulated by the War Emergency Committee with the view of impressing on every medical practitioner not at present on the whole-time naval or military service the vital and immediate necessity for more medical officers of military age, the following paragraph occurs:

"Without medical officers fighting units cannot be properly constituted. They are necessary to keep the soldier fit, to supervise his physical activities in drill and march, to watch food and water, to secure a sanitary camp, and above all, to act as an educational influence to men from the physical and sanitary point of view. If a medical man is to carry out such duties successfully he must have some military training. Professional training alone is not sufficient."

This necessity for "some military training" for army doctors was fully recognised by Sidney Herbert (Lord Herbert of Lea), the man who did so much both for the improvement of military medical education and for the reform of the Army Medical Service generally. One of the leading principles which guided Herbert when Secretary at War at the outbreak of the Crimean War, was that it is easier to prevent disease in the army than to cure it, and that the duty of the army doctor is to keep soldiers in health as well as to treat them when sick or wounded.

How medical knowledge could best be made available in the service of an army was a problem solved only by very slow degrees. In antiquity and throughout the Middle Ages no serious attempt whatever seems to have been made to solve it. Indeed, nothing in the way of a consolidated military medical system existed until towards the end of the nineteenth century. A certain stage of development was reached under Larrey and Sir James McGrigor in the days of the French Revolution and the Napoleonic Wars; but much which was then learnt was forgotten before the outbreak of the Crimean War in 1854. It needed the shortcomings of the Crimean campaign, the experience of the American Civil War, the European Wars in the 'sixties and 'seventies of last century, the Ashanti War in 1874[1] and the subsequent Ashanti expedition in 1883, and the Boer War, to bring the system of army hospital administration, dressing stations, field and base hospitals, and the Army Ambulance Service to the degree of splendid efficiency witnessed in connexion with the British army in the present war. This efficiency in organisation, treatment, and research work is an excellent reply to the attempt made by Lord Haldane and his fellow Commissioners to disparage and subvert the British system of medical education.

[1] The Ashanti War has been called the doctors' war.

MILITARY MEDICINE IN THE TIME OF THE GREEKS.

We learn from the Iliad of the very high value which Homer attributed to the medical and surgical services rendered to the Greek army by the two sons of Æsculapius in the Trojan War; we know that the Persian and Macedonian kings had Greek physicians and surgeons in attendance on them in their various campaigns, and that the Roman Emperors were accompanied to battle by medical men who were the trusty friends and intimate companions of their leaders, and were consulted by them on matters concerning the health of their troops. Some of these doctors were men of great renown, like Ctesias, Galen, and Oribasius; but there were bad as well as good among them. Menecrates, the physician, fancied himself equal to Jupiter, and wrote a letter to King Philip in the following terms:—

"You reign in Macedon. I am sovereign in physic.
I save the sick. You destroy the healthy. Farewell."

His insane vanity was deservedly exposed to ridicule by Philip in a practical joke played before the whole of his Court (Athenæus); and if the unswerving fidelity of Philip the Acarnanian physician gained the entire and unshakable confidence of the great Alexander, the traitorous infamy of Nicias the physician to Pyrrhus of Epirus merited condign punishment from that king.

The first mention of the special appointment of doctors to serve with the Grecian armies is that by Xenophon, who speaks of eight surgeons being appointed during the retreat of the Greeks along the Tigris and over the high tablelands of Armenia in 399 B.C. But it should be remembered that throughout Grecian history, from the Homeric period downwards, the military and civil character were united in every free subject. In every ancient constitution, oligarchical, despotic, and democratic alike, it was both the right and the duty of every free member of the State to attend in arms at the call of the chief magistrate; and very generally the chief civil magistrate, so far assuming the rôle of the kings of old, was the chief military commander (Mitford). Thus no doubt there were in every army men well qualified as the times were to render medical and surgical aid to the sick and wounded.

There is evidence to show that in antiquity some of the great generals were themselves specially instructed in medicine. We read of Achilles, together with his bosom friend Patroclus, having been taught the healing art by Chiron the Centaur; and between fifty and sixty years after the retreat of the ten thousand, Alexander the Great was being taught medicine by Aristotle. This prince seems to have followed with keenness this instruction, and became sufficiently qualified to write directions and suggestions for sick friends in whose well-being he took great and genuine interest. Plutarch tells of Alexander sending a letter of thanks on the recovery of one of his friends to the physician Alexippus; and when his favourite general, Craterus, was ill and the physician Pausanias was about to purge his patient with hellebore, Alexander wrote to Pausanias partly on account of his anxious concern for his friend and partly to give the physician a caution as to how he used that medicine. Again, Alexander in the course of his campaigns when resting at Ecbatana sent for a supply of three thousand actors and artists to entertain him and his companions; but his feastings and spectacles were interrupted by the illness and death of his most intimate private

friend Hephæstion. Being a young man and a soldier Hephæstion, Plutarch adds, could not confine himself to so exact a diet as was necessary, and during the absence of his physician, Glaucus, at the theatre, he ate a fowl and drank a large draught of wine whereupon he became extremely ill and shortly after died. Alexander was transported with grief and anger; and concluding that had Glaucus been with his patient instead of at the theatre Hephæstion's life would have been spared, he caused the unfortunate physician to be hanged.

Alexander used to speak of Hephæstion as Patroclus and of himself as Achilles, so it has been suggested that Aristotle taught Alexander medicine merely to flatter him by imitating the education of Achilles; but there is a much more probable reason. Aristotle was the son of Nicomachus the physician in ordinary to Amyntas II. King of Macedonia, and the author of several treatises on natural science subjects. Favourably influenced, no doubt, by his father's profession Aristotle gave his pupil extensive instruction in medical subjects, thinking that this branch of knowledge would be of great use to Alexander in his military career, and might be the means of his preserving the health of his soldiers whom he later on would command.

Leland in his "History of the Life and Reign of Philip King of Macedon," the father of Alexander, says that Aristotle in directing Alexander to the study of medicine was guided by the "just rules of reason and good sense"; and in support of this view he refers, "with the deference due to so great a man," to the directions given by Milton in his "Tractate on Education."

MILTON'S SCHEME OF EDUCATION.

This "Tractate," abounding in character teaching, is worthy of notice if only because of the noble-minded and patriotic definition of a "compleat and generous education" which I have transcribed from it and placed at the head of this address. But the Tractate is deserving of careful study by every one interested in education because of the nature and order of the studies prescribed and the purpose and character of the physical exercises recommended. The date of the publication was 1644, the Civil War was proceeding, and Milton was deeply imbued with the importance of giving military training to all those whose education he was outlining. He had nothing to say on the education of women. His scheme was for the male sex only and for one class only—namely, noble and gentle youths from 12 to 21 years of age. He made no proposals as to the general education of the people.

Each college was to consist of a spacious house with grounds, large enough to lodge 130 students. The establishment was to be based on the barrack system—military rather than monastic; and this number of students in each college was fixed upon as being convenient for forming "a foot company" or "two troops of cavalry." As many such academies as were needed were to be established throughout the land. Each was to be a school and a university combined whence the students might proceed direct to the M.A. degree. In Milton's own words:

> "This place should be at once both school and university not needing a remove to any other house of scholarship except it be some peculiar colledge of law or physick where they mean to be practitioners; but as for those generall studies which take up all our time from Lily" [the author of a Latin grammar in use at St. Paul's School in Milton's time] "to the commencing, as they term it, Master of Art, it should be absolute."

Milton saw little hope of weaning the old universities from the Aristotelian philosophy and from the "Scholastick grosnesse of barbarous ages"; hence his plan of teaching in the same institution the complete range of studies to be pursued from boyhood to graduation stage. In this respect his system is like that which prevails in France where students graduate direct from the lycée, only attending later on a special school of law, physic, &c. Moreover, in Milton's time the age of entrance to the university (fourteen) was lower than nowadays, and much nearer to the age of entrance to a public school at the present day.

The education of youths as given in the Tractate is divided into three parts, their studies, their exercises, and their diet. Milton says at the outset his intention was "to write now the reforming of education," and he prefaced what he had to say on education as it ought to be, "and for the want of which this nation perishes," by making many remarks as to what education then was and ought not to be.

Course of Studies.

He was an advocate of the study of nature, and of practical handwork and technical instruction, and was strongly opposed to the too exclusive study of Latin and Greek. If surprise is felt at the large number of Latin books on the list recommended one must not forget that Latin was the language of literature and the only one used in international correspondence in Milton's day. The earlier half of the course of studies is a combination of classics, mathematics geography, and natural science subjects. After acquiring a knowledge of Latin and Greek grammar, of arithmetic and geometry, and reading some of the easier works of Latin authors, particularly those on agriculture, the students are to take up natural philosophy, including mineralogy, botany, zoology, and anatomy, which is to be followed in due course by the institutes of physic. His words are:—

> "And in naturall philosophy they may proceed leizurely from the history of meteors, minerals, plants and living creatures as farre as *anatomy*. Then also in course, might be read to them out of some not tedious writer, the *institution of physick*, that they may know the tempers, the humours, the seasons, and how to manage a crudity; which, he who can wisely and timely doe, is not only a great physician to himselfe and to his friends, but also may at some time or other save an army by this frugall and expenceless means only; and not let the healthy and stout bodies of young men rot away under him for want of this discipline; which is a great pitty and no less a shame to a commander."

Then to give a practical turn to the instruction he adds:

> "To set forward all these proceedings in nature and mathematicks they may procure as oft as shall be needfull, the helpfull experience of hunters, fowlers, fishermen, shepherds, gardeners, *apothecaries*, and, in the other sciences, architects, engineers, mariners, anatomists, and this will give them such a real tincture of natural knowledge as they shall never forget, but dayly augment with delight."

Thus not merely book work but demonstrations by experts, and in the case of those who are themselves to become "practitioners," courses of study in "peculiar" colleges are enjoined. It must be admitted, however, that Milton commends the physiology of Aristotle and Theophrastus, and the medical writings of Celsus—works which men were not satisfied with even in his own day.

In the latter part of the course Greek prose works, the more difficult Latin writers, Greek and Latin poets, and later still Ethics, Metaphysics, Politics and Law were to be read; and if parts of the classical comedies and tragedies and some political speeches were committed to memory and repeated aloud so much the better, especially for those who would follow a forensic or political career.

Military Exercises.

Milton, after quoting an observation made by Plato that in the ancient and famous schools of Athens youths were exclusively trained for the "gown," i.e., for civil professions, whereas the Spartans trained their youth mostly for war, remarks that the institution he delineates is to "be good both for Peace and Warre." He wishes all students should be taught military exercises. "About an hour and a halfe ere they eat at noon should be allowed them for exercise and due rest afterwards; but the time for this may be enlarg'd at pleasure according as their rising in the morning shall be early." Fencing and wrestling are the exercises to be first of all practised. Of sword exercise he says:

"This will keep them healthy, nimble, strong, and well in breath; is also the likeliest means to make them grow large and tall, and to inspire them with a gallant and fearlesse courage, which being temper'd with seasonable lectures and precepts to them of true fortitude and patience, will turn into a native and heroic valour, and make them hate the cowardice of doing wrong. They must be also practized in all the locks, and gripes of wrastling wherein Englishmen were wont to excell, as need may often be in fight to tugge, to grapple, and to close."

Again—

"Two hours before supper they are by a sudden alarum or watch word, to be call'd out to their military motions (drills) under skie or covert according to the season, as was the Romane wont: first on foot, then as their age permits on horseback, to all the Art of Cavalry; That having in sport, but with much exactness, and daily muster serv'd out the rudiments of their Souldiership in all the skill of Embattelling, Marching, Encamping, Fortifying, Besieging, and Battering, with all the helps of ancient and modern strategems, *Tacticks* and warlike maxims, they may as it were out of a long warre come forth renowned and perfect commanders in the service of their country. They would not then, if they were trust'd with fair and hopefull armies, suffer them for want of just and wise discipline to shed away from about them like sick feathers; they would not suffer their empty and unrecrutible Colonells of twenty men in a company to quaff out, or convey into secret hoards the wages of a delusive list, and a miserable remnant."

Other similarly unfavourable remarks on "colonells" who lack "knowledge that belongs to goodmen or good governours" follow, but these as well as some of Milton's comments on the importance of medical knowledge to a commander are not only lessons of caution to the pupils but are directed against the Earl of Essex who at the outbreak of the Civil War in 1642 was appointed to the command of the Parliamentary army. Milton was impatient with the leaders on his own side; and his view of Essex was that he lacked "just and wise discipline," and could not check the falsifications of his colonels as to the wages and number of their men, and that he ought to have taken steps to prevent the depletion of the army by disease, which occurred to a terrible extent during the year preceding the publication of the Tractate.

The Influence of Music.

Music was considered to play an important part in the scheme of a good education, by the Ancients, by Charlemagne, and by the Schoolmen of the Middle Ages. It had a far wider significance to them than it has to us. Plato in his Dialogues and Laws had a very great deal to say of Music in connexion with education as a means of mental training opposed to gymnastic as a bodily training. He regarded it as being designed to give a wholesome discipline in a pleasant form, and to implant in the souls of youthful scholars true conceptions of good and evil. As a gift of the Gods to men music, he said, was never intended merely to give us an idle pleasure, "as the many foolishly and blasphemously suppose."

In Plato's scheme music should precede gymnastic; in Milton's scheme it should be an accompaniment of the rest and relaxation which immediately follow on exercise.

Without including music as a subject to be regularly taught, Milton held that its influence on the life of the students was very considerable. This is what he says:—

"The interim of unsweating themselves regularly, and convenient rest before meat, may both with profit and delight be taken up in recreating and composing their travail'd spirits with the solemn and divine harmonies of musick heard or learnt, either while the skilfull *organist* plies his grave and fancied discant in lofty fugues, or the whole symphony with artfull and unimaginable touches adorn and grace the well studied chords of some choice composer; sometimes the lute, or soft organ stop, waiting on elegant voices either to religious, martial, or civil ditties; which if wise men and Prophets be not extremely out, have a great power over dispositions and manners to smoth and make them gentle from rustic harshnesse and distemper'd passions. The like also would not be unexpedient after meat, to assist and cherish Nature in her first concoction" (first stage of digestion) "and send their mindes back to study in good time and satisfaction."

From this passage in the Tractate as well as from certain lines in *Paradise Lost* one is led to think that Milton was deeply impressed by Lorenzo's speech to Jessica in the *Merchant of Venice* where he describes "the sweet power of musick" on animals and men alike, and adds:

> "Since naught so stockish, hard, and full of rage
> But musick for the time doth change his nature;
> The man who hath no musick in himself," &c., &c.

It is interesting to recall Milton's appreciation of music in a scheme of education, and Shakespeare's beautiful description of the softening influence of music, in these days when a certain book entitled "The Country Without Music" by a German social economist is being referred to with such gusto in the German press as a good gibe at the English. The retort is obvious. Now that the world has learnt what unrestrained barbarity, robbery, and murder are included under German Kultur we have come to know that the people who pride themselves on having beyond all other nations "Music in their Souls" have also beyond all other nations a spirit "fit for treasons, strategems and spoils. ..... Let no such man be trusted."

Milton's Views in relation to Present Conditions.

The distinctly military character of the exercises advocated by Milton is no doubt largely due to the circumstances of the period when he was writing the Tractate. When every man, more or less, was fighting either for the King or for the Parliament against the King, the need of training youths to become good officers was acutely felt, and especially perhaps by the Cromwellian party. At the present day opinion is rife that some military training should be given in all schools. The O.T.C. has for some years attracted the great majority of boys in

every good secondary school, and boy scouts are happily to be seen everywhere. We may, I think, conclude from what he so strongly urges in the education of the one particular class he wrote about, that Milton would have been in favour of national military training. He would, I feel sure, have withered with biting sarcasm the mouldy catch-words, the canting phrases, and such shibboleths as "it is contrary to the British spirit," and "against the genius of our people," which are so prevalent and puerile as so-called arguments against universal or compulsory training for war and for efficient civil employment in peace. These are the catch-phrases too which English pro-Germans employ so maladroitly in opposition to every due and proper anti-German procedure—palliating intrigues and atrocities by what they are pleased to call "human friendliness" and "magnanimity of spirit."

It is remarkable to find that in three such different and widely separated eras as those of Homer, Aristotle, and Milton, a knowledge of medicine was considered desirable in military commanders. Milton indeed lays it down as a doctrine that every man should know something of medicine. The view that a commander should have a knowledge of medicine so that he should "not let the healthy and stout bodies of young men rot away" is hardly one that can be supported in these modern times. The scientific details and principles to be mastered nowadays both by the military and by the medical man are so numerous, so complex, and so different that the same individual cannot adequately discharge the duties of both commander and medical officer; but it ought to be, naturally, the desire of every commander to secure the best medical and surgical aid for his men, and it must always in future be the aim of the authorities to see to it that such is available.

Milton's remarks on Diet are extremely brief and common-place and need no comment.

Milton was an expert swordsman and was not unfamiliar with the technicalities of drill and military manœuvres, but he never joined the army. Doubtless he thought he could render better service in the cause of "liberty" by making his pen and not his sword his chief weapon. During the middle part of his life he was for a time a schoolmaster or tutor, and he therefore wrote on education as one with practical experience of school work, not as a theorist. He has been described as "the greatest man who ever became a schoolmaster," and his views on the education of youths are worthy of the man. His moral teaching might be summed up in his own words:—

> "They are to be enflam'd with the study of learning, and the admiration of vertue, stirr'd up with high hopes of living to be brave men and worthy patriots dear to God and famous to all ages."

Something, if not their education then their inborn national spirit, has "stirred up" and made to be realised these "high hopes" in the youth and manhood of our Empire. Well may we be proud of the outcome of their medical and medical-military training, as well as of the patriotism, endurance, heroic deeds, and voluntary self-sacrifice of all in every branch of our fighting services. With bowed heads and heartfelt gratitude we raise our hats to those now serving their country and in memory of those who have laid down their lives in her righteous and holy cause, as we repeat Milton's words "brave men and worthy patriots dear to God and famous to all ages."

ON THE BACTERIOLOGY OF SEPTIC WOUNDS.

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THE bacteriology of wounds inflicted in this war has furnished a very interesting study in that the flora of these infected wounds has been found to be very different from that met with in civil practice.

The wounds which we saw at the base were practically all bullet and shell wounds, and these seldom remained sterile. This is hardly to be wondered at when we consider that in practically all cases the projectile has to pass through the clothing of the soldier, and in its passage it gathers up mud or pieces of mud-covered clothing and plants such material deep in the wound. It is common to find in these wounds pieces of clothing, sometimes of considerable size, and it is reasonable to suppose that in all cases infective material is carried in. The wound becomes filled with blood clot and the walls consist of tissues which have been more or less damaged by the passage of the bullet, so that the conditions are all in favour of the implanted organisms flourishing and an infection resulting.

To determine the relationship between the infections found in wounds and the bacteria on the clothing we examined samples of clothing taken from wounded men on their arrival at the base. Small pieces were cut off from portions of clothing remote from the wound, so that contamination of the clothing by discharges from the wound might be avoided. Pieces about half an inch square were planted into broth tubes and cultivated aerobically and anaerobically. The results are set forth in Table I.

TABLE I.—*Bacteriological Examination of Clothing.*
(Well-known non-pathogenic organisms such as B. subtilis and the like were frequently found, but are left out of the table.)

Sample No.	Organisms found.				
	B. aerogenes capsulatus.	B. tetanus.	Streptococcus.	Staphylococcus.	Other organisms.
1	+	—	+	—	Long, slender Gram + bacillus.
2	+	+	+	—	
3	+	+	—	+	Bac. X.
4	+	+	+	—	
5	+	+	—	+	Diphtheroid bacillus.
6	+	—	+	—	
7	+	—	+	—	
8	+	—	—	—	
9	—	—	—	—	Fine bacillus resembling B. tetani, but with slightly oval spore.
10	+	—	—	—	Long, slender Gram + bacillus. Long, stout Gram + bacilli in threads.
11	—	—	—	—	Long, slender Gram + bacillus.
12	+	—	—	—	Tetanus-like organism with oval spore. Large Gram + bacillus. Bac. X.

From this it will be seen that of the 12 samples of clothing examined, B. aerogenes capsulatus was found in 10, B. tetani in 4, streptococcus in 5, and staphylococcus in 2; while other organisms which

were not properly identified, but which were in all probability mainly non-pathogenic, were found in some of the samples. These examinations were made in November last when there were many cases of tetanus, which is hardly surprising when we consider that one sample in three of the clothes examined showed the presence of the tetanus bacillus.

From a study of the bacterial flora one notices that these wounds pass through three phases, more or less distinct. The bacterial history of a wound is much the same whether it is slight or severe, except that in the slight and perfectly drained wounds the transition from one stage to another is much more rapid and healing occurs in a shorter time.

Let us trace the different phases in a severe wound, such as a compound fracture of the femur. During the first week after the infliction of the wound the discharge is a dark reddish-brown fluid often foul-smelling, and consisting of blood altered to a greater or less extent by the growth of the fæcal organisms which have constituted the primal infection. It is in this stage especially that we see the spore-bearing anaerobes associated with streptococci and sometimes other organisms.

The second phase marks a transition between the primary anaerobic infection and the final infection with pyogenic cocci. The discharge loses its bloody character and becomes purulent, the foul smell at the same time becoming less marked or disappearing altogether. This stage lasts from about the seventh to the twentieth day after infection. The bacteriological examination of wounds in this stage shows that the spore-bearers have tended to disappear, but that there is a gross infection with the non-sporing bacteria of fæcal origin—e.g., streptococci, B. proteus, "wisp" bacilli, &c. It would be wrong to say that in this stage the "anaerobic" phase had passed, as all these organisms can grow and flourish anaerobically. Indeed, the streptococcus sometimes, and the "wisp" bacillus always, will only propagate in the absence of oxygen.

The third phase is seen after the first three weeks. In this stage the fæcal element of the infection has tended to disappear, and we now have a simple infection of pyogenic cocci, staphylococci and streptococci.

The bacteriological history of a severe wound is illustrated by the following case.

Man had very severe compound fracture of thigh. Entrance wound small; exit wound large. About 2 in. of the femur was absolutely pulverised. Wounded Oct. 24th.

Days after infection.		Bacteriological findings.
2	Oct. 26th:	B. aerogenes capsulatus + streptococcus (few staphylococcus albus appeared in culture).
3	,, 27th:	Developed gas gangrene. Limb freely slit up.
4	,, 28th:	B. aerogenes capsulatus, streptococcus, long stout anaerobic Gram-negative bacillus (non-sporing).
5	,, 29th:	B. aerogenes capsulatus, streptococcus, B. pyocyaneus, diplococci.
8	Nov. 1st:	B. aerogenes capsulatus, streptococcus, B. pyocyaneus, B. proteus.
17	,, 10th:	Streptococcus, coliform bacillus, staphylococcus, B. aerogenes capsulatus, diphtheroid bacillus.
32	,, 25th:	Coliform bacillus, streptococcus, staphylococcus, diphtheroid bacillus, B. aerogenes capsulatus (few).
67	Dec. 20th:	Coliform bacillus, staphylococcus, streptococcus, diphtheroid bacillus.

The organisms are placed in the order of their abundance, as seen in films made from the pus. Here it is seen that B. aerogenes capsulatus associated with streptococcus, and a few staphylococcus albus, produced gas gangrene on the third day. B. aerogenes capsulatus was the most prominent organism in the pus until the eighth day, by which time coliform bacilli (B. proteus and B. pyocyaneus) had appeared in the wound. A few B. aerogenes capsulatus were present up to the thirty-second day.

TABLE II.—*Analysis of Bacteriological Examinations of a Series of Wounds.*

Time after infection.	Total No. of cases.	B. aerogenes capsulatus.	B. tetani.	Putrefactive bacilli. Bac. X.	Putrefactive bacilli. Bac. Y.	Streptococci.	Coliform bacilli.	Staphylococci.	"Wisp" bacillus.	Diphtheroid bacilli.	Large Gram + bacilli.
Stage 1. 1-7 days.	127	103	22	14	5	102	37	40	9	—	2
Stage 2. 8-20 days.	56	19	5	4	1	51	18	16	17	4	4
Stage 3. Over 20 days.	27	5	—	—	—	24	19	19	16	—	6

We see from Table II. that streptococci are found in practically all wounds, whether old or recently inflicted. The spore-bearing anaerobes, comprising chiefly B. aerogenes capsulatus, B. tetani, and some putrefactive organisms, on the other hand, progressively diminish in relative frequency as the age of the wound increases. The table does not accurately show the state of affairs, as it merely shows the presence of an organism and makes no note of the numbers present. In the early stages these spore-bearers are present in much greater numbers than anything else, whereas later, although they may still be seen in the pus films, their numbers are relatively few.

Figs. 1, 2, and 3, drawn from films of pus from wounds in the different stages, show what is commonly seen in these phases.

The organisms which we have found in these wounds divide themselves into three groups: (1) spore-bearing microbes of fæcal origin; (2) non-sporing microbes of fæcal origin; and (3) pyogenic cocci.

The first group includes B. tetani, B. aerogenes capsulatus of Welch, and certain putrefactive organisms which I shall refer to as bacillus X and bacillus Y. The habitat of all these is the intestine of man and animals, or in soil which has been manured with animal excrement. Thus B. aerogenes capsulatus is constantly found in human fæces, while the tetanus bacillus is very common in the excrement of some animals.

The non-spore-bearing organisms of fæcal origin include the streptococcus, B. proteus, B. coli group, and "wisp" bacillus. The streptococcus is without doubt the most important member of this group as regards infection of wounds. It is present in almost every wound up to a late stage. In nature it is found especially in the alimentary tract of all animals in almost the whole of its length, and to a lesser extent in human skin. From its appearance in the wound very early, and in association with organisms which are of known fæcal origin, we may assume that the streptococcal infection is also a fæcal one.

The third group of pyogenic organisms comprises especially the streptococcus and staphylococcus. Staphylococcus aureus is almost the only organism

frequently occurring in wounds which is not common in animal fæces. It is found sometimes in the intestine, but in comparison with the other organisms commonly met with in the wounds its occurrence may be said to be rare. It is noteworthy that staphylococcus aureus is seen in wounds only in the later stages, and as they are present on the patient's skin it seems likely that their appearance in the wound is largely due to an invasion from the skin around. A secondary infection of these wounds from the skin is almost inevitable, as in the ordinary course of things the surrounding skin is covered with a thick dressing into which the discharges of the wound have soaked. Such a dressing has been described by Sir Berkeley Moynihan as a "putrefactive poultice." The discharges furnish an excellent culture medium for the pyogenic cocci, and the dressing maintains the temperature at something very near blood heat, which is the optimum temperature for these cocci.

B. aerogenes capsulatus is a large, non-motile, Gram-staining anaerobic bacillus, which has been shown to be the cause of "gas gangrene." In this connexion I have described its characters,[1] and here I need only say that it occurs in practically all wounds in the early stages, whether there is any gaseous infiltration of the tissues or not. In the body it forms spores so that this element of the infection is very resistant to antiseptics. There is no difference noticeable in the flora of wounds which develop "gas gangrene" and those which do not, the onset of this condition being determined

FIG. 1.

Early stage of infection showing B. aerogenes capsulatus, B. tetani, putrefactive bacilli, coliform bacilli, and streptococci.

not so much by the nature of the infection as by the mechanical conditions of the wound, notably the presence or absence of free drainage.

Bacillus tetani.—We have found this organism in the clothing of the wounded soldiers and in a large number of the discharges from wounds. In most of these cases the wounds were serious, and there was a very gross infection with other organisms. In some cases this organism was found where gas gangrene had developed, and a few of such cases actually developed tetanus. It was noticed, however, in two or three cases, where there was a large infection by B. tetani, that the patient suddenly collapsed and died without there being anything in his general condition to lead one to expect such an event.

[1] THE LANCET, August 21st, 1915, p. 376.

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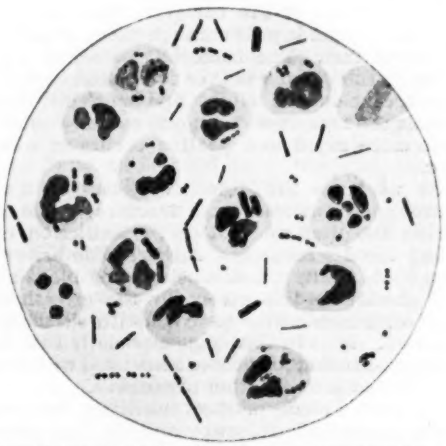

Second stage of infection showing B. aerogenes capsulatus, coliform bacilli, pyogenic cocci, and many pus cells.

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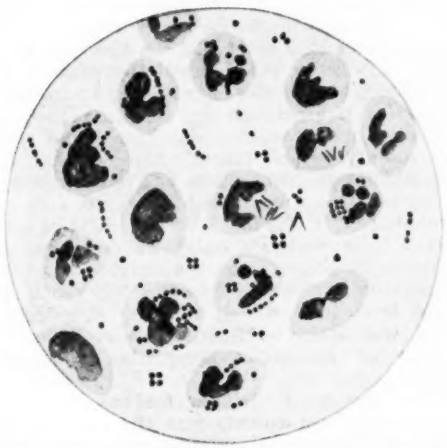

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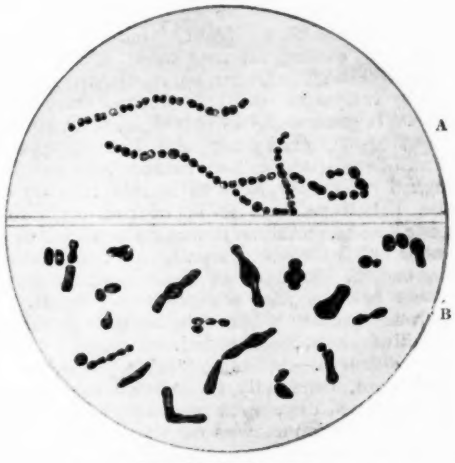

Anaerobic streptococcus.
A, Young culture. B, Four-day old culture.

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B. pyocyaneus.—This organism was relatively uncommon. In some cases it appeared in a wound for a short time and then disappeared again. In all probability it was a hospital infection, and it

[2] THE LANCET, August 21st, 1915.

frequently occurring in wounds which is not common in animal fæces. It is found sometimes in the intestine, but in comparison with the other organisms commonly met with in the wounds its occurrence may be said to be rare. It is noteworthy that staphylococcus aureus is seen in wounds only in the later stages, and as they are present on the patient's skin it seems likely that their appearance in the wound is largely due to an invasion from the skin around. A secondary infection of these wounds from the skin is almost inevitable, as in the ordinary course of things the surrounding skin is covered with a thick dressing into which the discharges of the wound have soaked. Such a dressing has been described by Sir Berkeley Moynihan as a "putrefactive poultice." The discharges furnish an excellent culture medium for the pyogenic cocci, and the dressing maintains the temperature at something very near blood heat, which is the optimum temperature for these cocci.

B. aerogenes capsulatus is a large, non-motile, Gram-staining anaerobic bacillus, which has been shown to be the cause of "gas gangrene." In this connexion I have described its characters,[1] and here I need only say that it occurs in practically all wounds in the early stages, whether there is any gaseous infiltration of the tissues or not. In the body it forms spores so that this element of the infection is very resistant to antiseptics. There is no difference noticeable in the flora of wounds which develop "gas gangrene" and those which do not, the onset of this condition being determined

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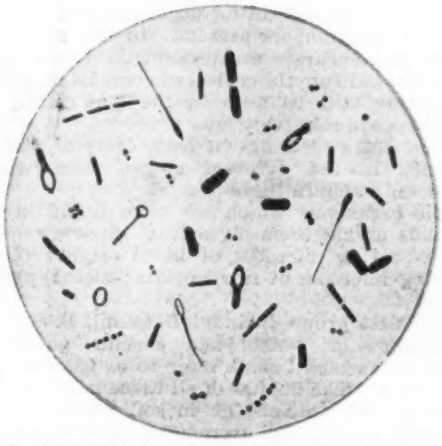

Early stage of infection showing B. aerogenes capsulatus, B. tetani, putrefactive bacilli, coliform bacilli, and streptococci.

not so much by the nature of the infection as by the mechanical conditions of the wound, notably the presence or absence of free drainage.

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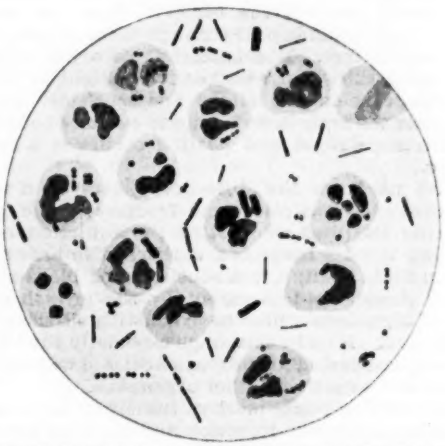

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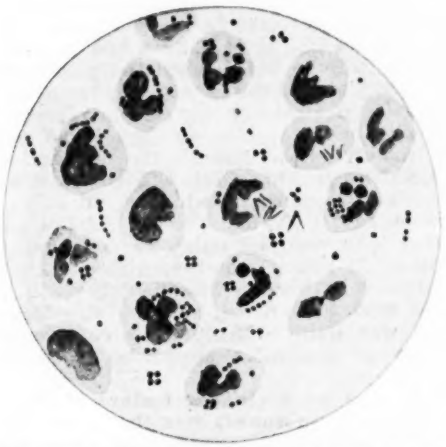

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speaks very highly for the great care which was bestowed on the disinfection of hands and instruments that this bacillus did not spread throughout all the cases, as it has been known to do in civil hospitals which possessed every facility for cleanly work.

"*Wisp*" *bacillus.*—This is a small, slender, Gram-positive, non-motile bacillus, which is of very common occurrence in wounds, especially in the later stages. It arranges itself into V-shapes or is aggregated into small bundles, something after the fashion of the diphtheroid group. (Fig. 3.) As seen in the pus film it tapers towards the free end of the V. It is an obligate anaerobe. It grows well in the depths of an agar or a glucose-agar shake or stab. It does not form gas. It clots milk in three or four days, and produces acid. It grows luxuriantly in serum which has been heated to 60° C., producing an acid reaction. In broth there is a copious even growth in two or three days, which settles to the bottom, leaving the upper portion of the fluid clear.

In pus this organism is usually to be seen inside the leucocytes, and it would appear to possess a very pyogenic character, as it is usually to be seen in large numbers in wounds which are producing very large quantities of pus, but which differ in no other respect from similar wounds from which the purulent exudate is much less.

Before I examined these wounds the only conditions in which I had met a similar organism had been in appendix abscesses or other suppurations connected with the intestine. Probably, therefore, this organism is merely part of the general fæcal infection of these wounds.

I isolated on one occasion, in association with an anaerobic streptococcus (from which I was able to separate it by plating), a very small, straight, non-Gram-staining bacillus. In appearance it was not unlike the influenza bacillus. It was an obligate anaerobe. It grew well in 48 hours in agar, glucose-agar, and broth, producing acid but no gas. It clotted milk and produced an intense acid reaction. Although I was only able to isolate this on one occasion I believe that it is of not uncommon occurrence, as in pus films it was quite usual to see a number of extremely small, fine, non-Gram-staining bacilli. In most of these cases, however, there was present also a member of the B. coli group, from which in a film this bacillus could not, with certainty, be differentiated.

Blood cultures.—A considerable number of wounded men, especially those with severe compound fractures, developed persistent high fever. The temperature chart was of the typical septic type. We cultivated the blood of a number of these patients with a view to seeing whether or not a septicæmic condition had developed. In about one quarter of such cases examined we were able to isolate streptococcus from the blood. This organism is, as has long been known in civil practice, the microbe which above all others is responsible for septicæmic conditions. In one case I found a pure culture of B. coli. This was a case of compound fracture of the femur, and the blood culture was made about three weeks after the wound was inflicted. The wound itself contained several varieties of organism, but the blood gave only B. coli. The patient recovered.

In another similar but more acute case I found in the blood an anaerobic bacillus which I was unable to identify. It was a strict anaerobe; Gram-negative, motile, extremely polymorphic. It showed many small, thin rods and threads, but in parts it was swollen out into larger forms, about the size and shape of the body of a trypanosome. I was unable to obtain a surface growth on agar or glucose-agar, and in stab culture in glucose-agar it unfortunately died out after the second subculture. As the patient had before this time died I was unable to recover the organism.

The streptococci which were recovered from the blood in these septicæmic cases were all of the "streptococcus longus" type. In one case in the original culture in blood broth the growth of a streptococcus altered the hæmoglobin to methæmoglobin. On neutral-red egg medium they produced, with one exception, an intense red colour, which rapidly spread through the medium. The coccus which failed to produce the red colour was a long-chained streptococcus which would only grow anaerobically. It was found in the blood of a man who had been wounded only two days, and who died about 12 hours after the culture was taken. The infection in this case was of a very much more virulent type than usual, and the streptococcus isolated was quite different and conformed to the type of anaerobic streptococcus described above.

Perhaps the most striking feature of the discharges from these wounds was the extraordinary amount of phagocytosis which had taken place, showing that the resistance to the infection was very great. It was uncommon to see pus in which large numbers of the organisms had not been ingested by the leucocytes, and in some cases almost all the bacteria seemed to have been phagocytosed. In one case, in which a knee-joint had been infected, I found in the fluid which was aspirated a large number of leucocytes, some of which contained many staphylococci. Cultures from this fluid, however, remained quite sterile, showing that not only had the leucocytes ingested the cocci, but they had apparently killed them. The infection in this case cleared up without the joint having to be opened.

This striking amount of phagocytosis in pus is in marked contrast to the condition observed in ordinary civil practice, where the infections occur more or less spontaneously in individuals, who for some reason or other have become less resistant to the infecting agent. In civil practice also the infecting agent has frequently an enhanced virulence, due to its passage from one individual to another, whereas in these wounds there is a sudden infection of a perfectly healthy individual with organisms the virulence of which has, in all probability, been attenuated by the previously unfavourable conditions under which they were existing (soil, clothing, &c.). The severity of these wound infections is merely the result of the very extensive destruction of the tissues by the projectile, thus furnishing an admirable culture medium for the bacteria out of reach of the natural protective forces of the body, and if it were possible for the surgeon to remove completely this dead tissue I am quite sure the infections would sink into insignificance.[3]

Unfortunately, however, this is impracticable, so we have to do what we can by efficient drainage, removal of blood clot, and other measures for diminishing the amount of culture medium available for the bacteria in the wound. At the

[3] Since this paper was written an article has appeared on Treatment of Gunshot Wounds by Excision and Primary Suture, by Colonel H. M. W. Gray, A.M.S. (Brit. Med. Jour., August 28th, 1915). Colonel Gray finds that by excision of the wound "healing by first intention is assured in the vast majority of properly selected cases."

same time, we ought to keep the patient's resistance up to a high level by the periodic administration of an appropriate vaccine.

Sir Almroth Wright has given in detail the indications for the use of a vaccine[4] in different types of wound. I think, however, that it would be of advantage to administer in every case of infection streptococcus vaccine in small doses of, say, 1 to 5 millions every five or six days. In many cases the beneficial effect would be obvious, while in others the advantage, although not readily perceptible, would yet be not less valuable to the patient.

Devonshire-place, W.

RHINOPHYMA: ITS ETIOLOGY, PATHOLOGY AND TREATMENT.

BY SIR WILLIAM MILLIGAN, M.D. ABERD.,
AURIST AND LARYNGOLOGIST TO THE MANCHESTER ROYAL INFIRMARY; CONSULTING SURGEON TO THE MANCHESTER EAR HOSPITAL.

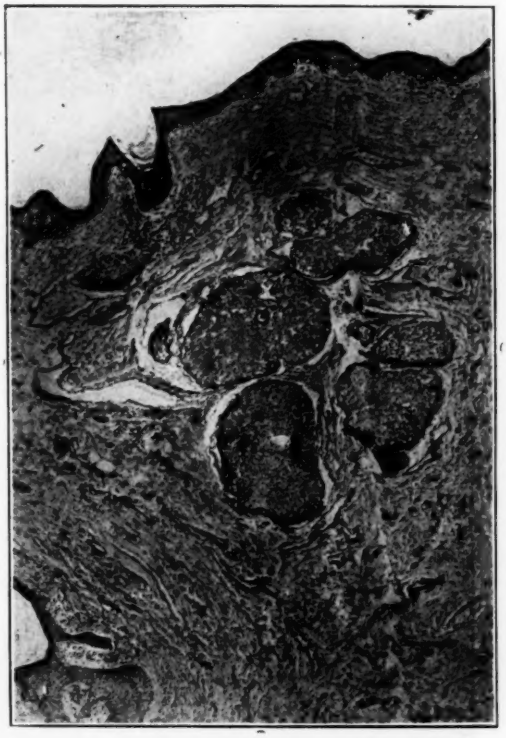
RHINOPHYMA—the name given by Hebra to a peculiar and unsightly deformity of the nose occurring as a rule in males, and characterised by the presence of more or less symmetrically situated

FIG. 1.

Before operation.

lobulated masses of hypertrophied cutaneous and subcutaneous tissue covering the dorsum and alæ nasi—is comparatively rarely met with in practice. It has been described as a soft fibroma of the skin (Coplin), as a cystic adenomatous fibroma (Lassar),

FIG. 2.



Section of skin removed from dorsum nasi shewing thin but intact epithelium. The dermis is inflamed, the small-celled infiltration extending to some depth. There is marked proliferation of the subcutaneous connective tissue with an abundant supply of large sebaceous glands, several being distended into tiny cysts. × 40.

and as the outcome of a localised angioneurosis (Dohi).

Etiologically it is difficult to assign any one particular cause for its presence. A relationship to chronic alcoholism has been suspected, but has by no means been definitely proved; hence the designation "elephantiasis des buveurs" (Ollier) is somewhat inappropriate, nor is its presence in any way necessarily connected with traumatism. It presents, however, a marked similarity to aggravated "acne rosacea," which may in fact be present in other parts of the face at one and the same time and of which it may conceivably be an end-result.

Rhinophymata give rise to much mental distress and worry, and a desire to shun all society on account of the unsightly appearance produced by their presence.

The patient the subject of the following investigation, a male aged 58 (whose facial appearance prior to operation is seen in Fig. 1), had always enjoyed good health save for an attack of acute bronchitis three years ago and influenza six months prior to admission to hospital. Fourteen years ago he noticed a number of yellow pustules upon his face and nose, which repeatedly came and went without apparently producing any obvious change in his tissues. Three years ago, however, the external surface of his nose began to swell and

[4] THE LANCET, May 1st, 1915, p. 897.

became lobulated. During the past three or four months the enlargement had been much more rapid and had attracted marked attention. On an average he had consumed from 5 to 6 pints of beer a day for the past 30 years, and at week-ends and during holidays had taken whisky as well. The heart and lungs were normal; liver slightly enlarged; urine normal.

FIG. 3

Five weeks after operation

Histological examination of sections of the pathological tissue removed by operation (Fig. 2) shows marked thickening of the connective tissue of the corium with hyperplasia and cystic dilatation of its sebaceous glands and small deposits of fat between the various hypertrophied areas. The outcome of these changes is an elevation of the papillary layer of the true skin into circumscribed projections of varying size and shape. The overlying epidermis is at times thickened, at times attenuated, while a small-cell infiltration extends often to a considerable depth. Cystic dilatation of one or more of the sebaceous glands is, as a rule, a marked feature in many sections, and it would appear as if these glands were not only enormously increased in size, but were actually increased in number. Their ducts are in many cases greatly dilated and more tortuous than normal, while their epithelial lining is often considerably thickened. Blood-vessels, arteries, veins, and capillaries are enlarged, have thickened walls, and run a more tortuous course than is usual, while around them there are often cellular extravasations composed largely of plasma cells. In some sections multinucleated giant cells of the phagocytic type are to be observed around some structureless and homogeneous material. These various changes are confined to the external surface of the nose, the vestibule and interior of the nasal passages presenting a normal appearance, while no pathological alteration is found in its osseo-cartilaginous framework.

Various methods of treatment have from time to time been adopted—e.g., decortication, destruction by thermo-cautery, electrolysis, application of radium, and removal by shaving off the hypertrophied masses of skin with an ordinary razor. In the case whose history has been narrated the following procedure was adopted. Under general anæsthesia an incision was made along the centre of the dorsum of the nose from its root to its tip, and two others from its root around the hypertrophied masses to the centre of the columella nasi. With forceps and sharp knife the whole of the hypertrophied tissue was carefully dissected off, the nasal passages being meanwhile kept distended with absorbent wool in order to preserve their contour. During the dissection great care was taken to avoid injury to the lateral cartilages of the nose. Hæmorrhage, so much dreaded in the operative treatment of these cases, proved quite insignificant, only two vessels, and these of moderate size, requiring ligation. Primary skin grafting was performed by taking two large and very thin grafts from the patient's left thigh and completely covering the raw surfaces. A sheet of gold leaf was then "stoppered" down over the applied grafts, and a dry dressing fixed *in situ* with a couple of strips of adhesive plaster. Five days after the operation the dressing was removed and the graft found to have taken completely.

The result was eminently satisfactory, the facial appearance of the patient being seen in Fig. 3, a reproduction of a photograph taken five weeks after operation.

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Manchester.

DEATH OF A WELL-KNOWN CARDIFF MEDICAL MAN.—Dr. John E. Jones, of Cathedral-road, Cardiff, died recently at St. Edmund's New-road, Porthcawl. He was a native of Monmouthshire and qualified in 1883. After holding several resident appointments in London he at first worked at Banbury, but about 20 years ago went to Cardiff, where he had a large practice. He leaves a widow, a daughter, and two sons, both of whom are medical men serving their country in the army.

TRAGIC DEATH OF A MEDICAL MAN.—Mr. G. Metcalfe Sharpe, who died last week at the age of 72, was a well-known medical practitioner in South Leeds. Some three months ago he was knocked down by a cyclist, and for several weeks afterwards was seriously ill. About a fortnight ago he went to stay with relatives at Morecambe, and while sitting on the verandah of the house there he noticed a man in khaki waving a stick towards him. He believed the signaller to be his son, an officer in the Royal Army Medical Corps, to whom he was greatly attached, and the excitement of the impression brought on a sudden failure of the heart which proved fatal.

ON GALYL, A SUBSTITUTE FOR SALVARSAN AND NEOSALVARSAN.

BY ARTHUR FOERSTER, M.R.C.S.,
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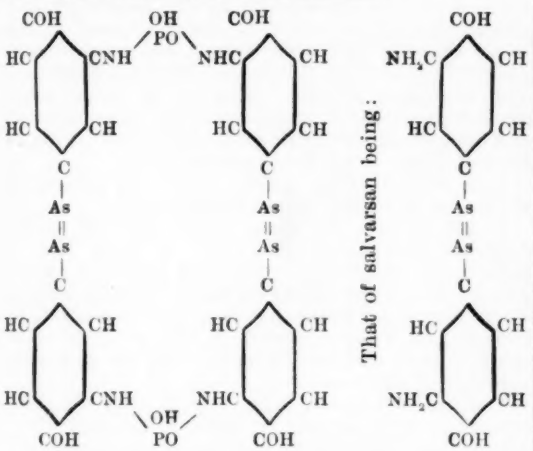
OF late, arsenical compounds have gained a permanent and prominent foothold in the therapeutic arsenal of syphilis, so much so that any new arseno-organic substance allied to salvarsan is apt to command attention. This consideration has led me to give a new and not generally known drug a trial. Moreover, a shortage of good salvarsan menaces us in the near future owing to the war, and thus it is highly desirable to find a reliable substitute. The importance of this matter has been pointed out quite recently by Mr. J. Ernest Lane,[1] who has observed some alarming and grave accidents following upon the use of salvarsan of French and British manufacture.

The drug referred to in this paper is a discovery of Dr. Mouneyrat, to whom we owe hectine, and is named Galyl (1116). Like salvarsan, it is a derivative of arsenobenzol, which was first prepared by Michaelis in 1881. In galyl two molecules of arsenobenzol are linked with two phosphoric groups; it is tetraoxy-diphospho-amino-diarsenobenzene, and corresponds to the following formula:—



It contains 35·3 per cent. of arsenic and 7·2 per cent. of phosphorus, is a yellow powder of a tint different from those of salvarsan and neosalvarsan, and is insoluble in distilled water. It, however, dissolves rapidly in a weak solution of sodium carbonate, from which it can be precipitated readily by the addition of an acid. The tubes in which the drug is dispensed, contain the small amount of sodium carbonate required for solution, and thus the handling and dissolving are no more complicated than in the case of neosalvarsan. The solutions are yellow, with a brownish-green tint when fairly concentrated, and differ considerably from the bright yellow of salvarsan solutions.

Technique.—Galyl is best administered by means of intravenous injections, as intramuscular injections are painful and may lead to necrosis like salvarsan. Any of the methods used for the latter drug are admissible. Personally, I prefer the infusion method, as it gives the best guarantee against infiltration of the soft tissues, and fairly concentrated solutions seem to me to be better borne than weak dilutions—a view which also applies to salvarsan and neosalvarsan.

I have confined myself so far to using galyl on syphilitic cases with very pronounced lesions, partly because this procedure yields the most palpable and convincing evidence of the value of the drug, partly because patients with definite symptoms attend more regularly, and partly because no substitute for salvarsan can be accepted unless it has equal or almost equal curative properties.

CASE 1.—Aged 26; infected Christmas, 1914. Sore on prepuce since middle of January, 1915. First seen on March 29th; indurated chancre occupied almost the entire circumference of the free margin of the prepuce, producing phimosis. Marked polyadenitis; intense papular eruption on body and limbs. Patient complained of severe headache and sore-throat. Galyl, 0·4 grm., was given intravenously; no reaction. On April 6th the chancre was almost healed; the prepuce was becoming movable. The eruption was fading, notably on the limbs. The patient considered the improvement marvellous, and stated that the headaches had disappeared. A second injection of galyl, 0·5 grm., was given; this was followed by a reaction. On April 14th the patient was very well. The chancre had completely healed. The glands had gone down considerably, and the rash was merely indicated in a few places by pigmentation. As the patient was in the army he was advised to continue further treatment under the care of his regimental doctor.

CASE 2.—Infected Christmas, 1914. On Feb. 8th, 1915, large chancre on penis, characteristic glandular enlargement in both groins, and a papular eruption on body, limbs, and face. On Feb. 10th intravenous injection of galyl, 0·4 grm.; no reaction. On Feb. 17th chancre was much smaller and undoubtedly healing. The papules on face and forehead had disappeared; those on the other parts were flat and fading. Galyl, 0·5 grm., was given. On March 3rd further improvement. Only a few pigmented spots were left. The chancre had healed completely. Another injection of galyl, 0·5 grm., was given. On March 30th the patient wrote from the country, "My health is perfect," and was advised to start upon a course of mercury.

CASE 3.—Aged 28; exposed himself to infection, Christmas, 1914, after having enlisted. Balanitis supervened, and sick leave was granted. On March 8th, 1915, horribly septic chancre; the glans was bathed in pus, eroded, hard, and painful. The patient was pale and weak, and complained of headache and sore-throat. Poly-micro-adenitis; papular rash all over, in places rupial in character. Galyl, 0·4 grm., given intravenously. On March 16th penis no longer painful and healing well. The prepuce had become more movable. The rash was disappearing everywhere. The patient asked for another injection, and received 0·5 grm. of galyl; marked reaction. Since then he has made further progress and returned to his regiment.

CASE 4.—Colonial soldier, infected Jan. 3rd, 1915. On March 9th typical Hunterian chancre, 4 cm. long and 1·5 cm. wide, running along the right half of the balano-preputial sulcus. Very marked glandular reaction in both groins. No other symptoms. An intravenous injection of galyl, 0·4 grm., was given; no reaction. The patient has not been seen since, but he wrote on April 5th: "I may say that I am feeling O.K. and my shanker is all healed with the exception of a little spot, and same is drying very quickly." He also mentions in a postscriptum that he "had to walk 23 miles next day after having had his injection."

CASE 5.—Aged 28; infected mid-January, 1915. In the beginning of March he noticed a small pimple on his fore-skin which became larger, and induced him to seek advice. On March 23rd ecthymatous chancre on prepuce, bubo in left groin, poly-micro-adenitis, and roseola. Galyl, 0·4 grm., was given intravenously; no reaction. On March 30th chancre healed, roseola disappeared; the bubo was much smaller, and the skin over it no longer red. Another injection of 0·4 grm. was given; no reaction. On April 6th the patient felt very well and was free from symptoms. He

[1] THE LANCET, April 3rd, 1915, p. 724.

received another injection of 0·4 grm., which was followed almost immediately by sickness. He admitted having had breakfast only two hours previously. The patient has been well since, and has started upon mercurial treatment.

CASE 6.—Aged 29; exposed himself to infection in the middle of January, 1915, and noticed a small sore two weeks later at the left side of the root of the penis. This gradually increased in size; loss of appetite, headaches, and a rash supervened. On March 29th the patient sought advice; flat chancre at left side of penis where it joins the body; inguinal glands characteristic. The glans penis was studded with typical mucous plaques. The body was covered with a macular rash, and the throat was injected. Galyl, 0·3 grm., was given intravenously. On April 6th the chancre, which was of the size of a shilling, was almost healed. The mucous plaques on the glans and the rash had disappeared. Galyl, 0·4 grm., was injected. On April 13th the chancre was healed completely. The patient had an acute attack of gonorrhœa, and measures were adopted accordingly.

CASE 7.—Aged 23; complained since middle of January, 1915, of hoarseness and pain in the throat. As "he could not understand it" he consulted a doctor, who prescribed local treatment and mercury pills. When first seen on Feb. 8th no rash was present and no chancre could be found on the genitals. The anterior half of the tongue showed two typical mucous plaques, and another larger one was present at the labial commissure. Typical laryngitis. On Feb. 10th galyl, 0·4 grm., was injected intravenously. On Feb. 17th the patient, who was "better and stronger every day," was able to work again. All the lesions had healed and the voice was almost normal again. An injection of 0·4 grm. was given. On March 3rd another injection of 0·5 grm. was administered. The voice was normal. On April 13th the patient returned from the country very fit, and was advised to undergo mercurial treatment.

CASE 8.—Aged 27; acquired syphilis Christmas, 1912. He developed in due course a chancre, a papular rash, and mucous plaques in the buccal cavity, for which he was treated in London. He received two injections of salvarsan given at 14 days' interval, and bi-weekly injections of mercury for six weeks. Since the end of 1914 he had been suffering from a recurrence. An eruption broke out on his forehead, forming an unsightly placard 2·5 in. wide and 2 in. high. On March 23rd, 1915, large papulo-tubercular syphilide on forehead, extending from the eyebrows to the hair of the scalp; no other lesion. Galyl, 0·4 grm., was given intravenously. On March 29th the eruption was practically cured. The skin was evenly flat and smooth, though somewhat redder than the intact surface. The patient was enthusiastic and asked for another injection; 0·5 grm. was given, and this was followed by a marked reaction. On April 5th he wrote to say that he was well and asked for further advice.

CASE 9.—Aged 49; acquired syphilis in 1885. His chancre was cauterised and a course of mercurial pills was followed for three months. The patient claimed to have remained well till 1902, when he developed psoriasis. The lesions were at the time successfully removed. Since October, 1914, the psoriasis had shown itself again. On March 9th, 1915, the patient, a prematurely old man, was very worried, and unemployable owing to the condition of his hands and face. No sign of tabes. The wrists, elbows, thighs, buttocks, &c., were covered with typical lesions, some as large as a florin. The crusts were especially marked at the elbows. There was a certain amount of itching. Galyl, 0·3 grm., was given intravenously; no reaction. On March 16th no definite improvement; the patient claimed that the irritation had subsided; 0·4 grm. was given. On March 23rd again no definite result; injections of enesol were given, and the patient was advised to use his chrysarobin ointment again. On April 15th marked improvement.

Therapeutic results.—In considering the results obtained in the above series the last case may be excluded. This patient had been suffering for a long time from genuine psoriasis which had come on many years after he contracted syphilis. Here no symptomatic cure was effected. The patient holds that his health has been improved, and that the irritation has subsided. Thus a small success may possibly be claimed. However, as in the case of salvarsan and neosalvarsan, the beneficial effect of galyl upon psoriasis must be considered doubtful. Some lesions may clear up, others do not.

In every one of the other cases the results have been excellent. An immediate—from the very next day on, as one patient remarked—improvement followed upon the administration of galyl, and all the lesions disappeared within a very short time. As Case 4 shows, one injection is quite sufficient to heal a very large chancre, and mucous plaques heal in a few days (Cases 6 and 7). All secondary rashes respond well and quickly. The effect upon the general health is that of a tonic.

Salvarsan, whether employed intravenously or intramuscularly, does not yield any better results. With equal dosage they would be inferior. Even when I compare the results given by the first (experimental) tubes of salvarsan (606 Hy) with those obtained by galyl, I am unable to find any superiority for the German drug. Being one of those who had occasion to handle salvarsan before it became common property, and having used it ever since, I may be permitted to state that I am decidedly under the impression that the salvarsan sold of late by the German manufacturers is much less potent than the experimental tubes given out by Ehrlich in the beginning, and neosalvarsan is weaker still. Galyl appears to me to be superior to both salvarsan and neosalvarsan with regard to its symptomatic effect upon primary and secondary lesions. This is a considerable advantage, as these lesions are the most virulent and dangerous, and require a rapid cure owing to the risks they imply for the community.

With neosalvarsan galyl shares its solubility, which has made the former so popular.

Ill-effects.—All my cases were injected under unfavourable conditions. Most of them had to come up by omnibus or train and returned immediately, or in less than two hours, to their homes. There can be no doubt that the ill-effects could be reduced, or even excluded, if the patients were injected in a nursing home or hospital and were kept under observation.

Vomiting was noted once (Case 5) after the third injection. The patient brought up egg and other matter and confessed to having had breakfast only two hours previously. The vomiting in this instance was self-inflicted, and would certainly also have occurred had salvarsan or neosalvarsan been used.

With the doses 0·3 grm. and 0·4 grm. no ill-effects were observed. With 0·5 grm. the following took place in Cases 1, 3, and 8, and this seems to be the only drawback worth considering. Almost immediately after the injection the patient becomes flushed and slightly dyspnœic. This is rapidly followed by pallor. The pulse becomes small and almost imperceptible, varying between 100 and 120. As the heart beats become feeble the limbs become numb and cold. In one instance pain in the stomach was complained of. These phenomena, however, pass off very quickly, and in none of my cases was there the slightest reason for alarm. Some people being more susceptible than others, all risks can be avoided by starting with small doses, excluding patients suffering from heart trouble, and allowing an

interval of more than eight days between the injections. The vascular disturbance itself could be treated by means of intragluteal injections of adrenalin, as recommended by Milian for salvarsan disturbances, or, as I should prefer, by means of a hypodermic injection of ether, if deemed necessary.

Galyl is akin to salvarsan in its composition, and therefore headache, slight fever, diarrhœa, &c., may occasionally be noticed. These accidents are trivial and require no special comment.

Dosage.—The "therapia sterilisans magna" so bombastically proclaimed by Ehrlich and his followers was never taken seriously by the judicious, and the events have shown its futility. It would be unfair to the drug and to the patients were one to expect from a single injection of galyl a complete cure, and not to take advantage of the lessons taught by the experience with salvarsan. In my opinion massive doses are to be deprecated. In the case of salvarsan they have given rise to more trouble than all the organic and inorganic "water faults" (Wechselmann, Emery) and other factors discovered by Ehrlich's partisans. Salvarsan poisoning is a serious matter, and there are, unfortunately, but few cases that come early enough to be aborted. In most cases a chronic intermittent treatment is indicated as in former days. What has changed is the detail. Making use of the various remedies, tests, &c., at one's disposal, each case has to be treated according to its merits. The most rational procedure appears to me to consist in the removal of the urgent symptoms by means of a few injections of galyl, starting with 0·3 grm. in the case of adult males, and 0·2 grm. in the case of females, and following this up with mercurial treatment. A rest is then given, and the treatment resumed in due course, guided by the serum reaction, and carried out as required in each individual case.

I am well aware that various important questions connected with the drug, such as its effect upon tertiary lesions, its influence upon the serum reaction, &c., require investigation, and that a great deal of further experience is necessary before a definite opinion can be formed on the merits and demerits of galyl. My clinical results, however, have been so encouraging, and I have seen most virulent syphilitic lesions heal so rapidly under its influence, that others may wish to give it a trial. As far as I can tell at this stage galyl appears to be "every bit as good" as salvarsan, and it is to be hoped that it may be tested more extensively.

Considering its price it may prove a blessing to military hospitals, infirmaries, and other large institutions.

Gloucester-place, W.

THE MEDICAL AND SWIMMING BATHS OF TORQUAY.—At the last meeting of the Torquay Borough Council it was reported that the baths would be completed by the end of October, by which date the committee hope to have an efficient staff ready.

THE LATE MR. SAM CUNLIFFE.—Mr. Cunliffe died at his residence, Witton Park, co. Durham, on August 31st, in his fortieth year. He was a native of Bolton and had lived in the Witton Park district since 1905. Greatly interested in municipal affairs, he contested the West Auckland district in two county council elections, and was successful in 1913. He was chairman of the Escomb parish council for many years, medical officer under the Auckland rural council, and a medical referee for the Durham Miners' Association, a public career which made him a very well-known man in his district.

A CASE OF TEMPORARY MOTOR APHASIA DEVELOPING IN THE COURSE OF TUBERCULOSIS.

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SINCE the time when Broca made the discovery of localising the motor speech centre the cortical areas of the brain have been considered by most physiologists and physicians to represent the cerebral centres for our speech mechanism. It has been a misfortune, however, that much discrepancy of opinion has existed on this subject. No one area has been allowed to go unchallenged, and Marie has gone so far as to locate the entire speech mechanism to his "Wernicke's zone," which is supposed to occupy the left temporo-parietal lobe. Modern opinion, however, has become accustomed to the views of Broca, Dax and Moutier, and in this article the more commonly accepted localities in the cortex of the brain have been in the writer's mind.

For a proper understanding of the symptomatology of aphasia it is necessary to remember that the entire speech mechanism is dependent on intellect. The greater the intellectual capacities of an individual the more extensive and the more complicated does the mechanism become, and the compass involved in the acquisition of foreign languages, music, mathematics, &c., goes to show that the sensory part of the receptive system is capable of almost unlimited development. Each new mental accomplishment requires, as it were, a new centre for its establishment.

Up to school age most children are in possession of two centres at least, an auditory speech centre and a motor speech centre. The former, which is placed in the first (and second) temporal convolutions, is where all memories of sounds are stored; the latter is situated in the third left frontal convolution—i.e., Broca's convolution. This latter centre has for its function the outward expression of stored memories. During school life there are other two centres brought into action, but for their growth and efficiency it is necessary that the integrity of the auditory speech centre and the motor speech centre should be maintained. The first of these centres, the visual speech centre, is said to be in the supramarginal convolution, and here resides the power which enables the child to understand written or printed language. Under the influence of this visual speech centre, when sufficiently developed, the writing centre is built up. There has been considerable discussion as to the exact site of the writing centre. Some have doubted its independent existence and have incorporated it with Broca's area. It is usually described, however, as being in the second left frontal convolution, and it is therefore possible for agraphia to exist alone as the sole symptom of a cortical lesion. F. Sans[1] has reported a case of agraphia persisting alone *after* motor aphasia. It is very seldom that a lesion is confined to one particular part of the cortex and so gives rise to a purely typical aphasic syndrome. It is more common for the lesion to be diffuse and to involve two or more of the

[1] F. Sans: Revista de Medicina y Cirurgia Practicas, June 21st, 1914.

cortical centres. Moreover, the whole condition is further complicated by the fact that subcortical lesions give totally different symptoms owing to the fact that the cortical centres are uninvolved, as a rule, in these cases, although the lines or afferent nerve paths leading to the cortical centres are interrupted.

Cases of temporary aphasia are most often seen in diseases which have for their pathological basis some abnormal condition of the blood-vessels. There are now many cases on record of transient attacks of motor aphasia, sometimes accompanied by hemiplegia or monoplegia, sometimes not. That motor aphasia should so frequently involve the occurrence of hemiplegia is quite well understood when one takes into consideration the fact that the Rolandic area is in close proximity to Broca's convolution, and the combination of these two symptoms—aphasia and hemiplegia—whether vascular, meningeal, or cerebral in origin, makes localisation a very simple matter. Temporary aphasia is a condition which is probably of more occurrence than is generally granted. It is possible for a subcortical hæmorrhage to be the cause of a transient aphasia without paretic or paralytic symptoms, but such must be extremly rare.

In pneumonia and in enteric fever aphasia has been met with in children without further cerebral complications, and in small-pox aphasia with hemiplegia has been found. In cases showing the usual signs and symptoms of cerebral tumour the onset of aphasia gives a valuable localising addition, but it is to be remembered that in left-handed people the area known as Broca's convolution is on the right side of the brain.

One of the most common causes of temporary arrest of the speech mechanism is Jacksonian epilepsy, and here again the anatomical situation of the parts involved offers a ready explanation of the phenomenon. There remain, however, one or two more conditions in which aphasia may arise, and such go to show that a careful examination of every organ must be made in some cases before a definite diagnosis of the causal condition can be made. A not infrequent source of motor or even sensory aphasia appears to be the vegetations which become detached from a mitral valve, the seat of stenosis.

A most interesting condition is that in which the branches of the middle cerebral artery are in a state of spasm and where aphasia may be the only symptom, although in most of the cases reported there has been associated mono- or hemi-plegia. Of these purely vascular conditions, arterio-sclerosis and Raynaud's disease may be mentioned, and it is also probable that the transient aphasia noted in migraine may have its cause in this spasm of the blood-vessels.

It is apparent, therefore, that the cortical vascular supply is of the utmost importance in determining the site and extent of the lesion. It will be remembered in this connexion that the four cortical branches of the middle cerebral or Sylvian artery supply the outer surface of the parietal lobe and adjacent portions of the frontal and temporal lobes, the areas with which we are concerned. In illustration of yet another cause of temporary motor aphasia, I give an account of a patient who has been under my care for some three months past.

The patient is a girl, age 10, who, until November of last year, had been in apparently good health. About the middle of that month—the exact date is uncertain—she was exposed to damp and cold, and from that time she began to fail in health. From being an intelligent girl, fond of school work, she sank into ill-health which manifested itself by cough, expectoration, and profuse sweatings. She was unable to attend school after this, and until the time she was admitted to Stanfield Sanatorium (Feb. 13th, 1915) her condition was becoming progressively worse. From the time of her admission up to June 1st the patient's temperature was extremely hectic, the variation between the morning and evening records amounting sometimes to 5° F. On June 1st it was noticed that the patient displayed a certain amount of mental torpor, but no particular attention was paid to this. She lay in the dorsal decubitus in bed, but could assume any position at will. The general appearance of the body was one of extreme emaciation, although in contradistinction to the trunk and limbs the face was comparatively full. The body surface generally was pale, but the hæmoglobin estimation was, on May 30th, 85 per cent.; the white blood corpuscles numbered 10,000 per c.mm., and the red cells 4,600,000. The mucous membranes of the mouth shared in the general body pallor. The abdomen was, as on admission, uniformly distended and tympanitic to percussion all over, even when the patient lay on either side. Neither the liver nor the spleen was palpable. There was no enlargement of the cardiac boundaries, nor was there any abnormality in the cardiac sounds, except at the base of the h-art, where the second sound at the pulmonic area was definitely accentuated. The pulse-rate was 120 per minute, and there was no irregularity. The chest was flat and the fossæ of Morenheim were well marked. There was very slight impairment in the percussion notes in the front of both sides of the chest, below the clavicles, but posteriorly, at the bases, there was definite dullness. On auscultation the respiratory murmur was very feeble throughout the whole chest, and at the left apex and at both bases a few crepitations were to be heard, The pupils reacted to light and on accommodation. There was no strabismus. None of the limbs showed any signs of paresis, and the superficial and deep reflexes were normal in type. The urine was acid, was of specific gravity 1012, and contained no albumin.

On June 2nd the patient's mental condition underwent a complete change. She was now unable to speak coherently although she was able to say a few odd words such as "Nurse," "Doctor," &c., but even these words were uttered with considerable effort. She seemed to be perfectly conscious of her condition, and once or twice she wept. On asking her to sit up in bed she obeyed, and when asked to take an object in her hand she did so, with either hand, and with no apparent difficulty. Her ability to read was much impaired, because she signed for her nurse to read her a letter which she received from home that morning. She was also quite unable to write. In this condition she remained for 24 hours, and then returned to the condition she was in the previous day. Gradually, however, she came round again, and in two days' time she was perfectly alert mentally and able to speak fluently and well as before. She has had, up to now, no recurrence of cerebral symptoms.

The nature of the lesion here is not quite certain but it is on record that the growth of small peri-arterial tubercles in the Sylvian fissure accounts for some of the cases of temporary aphasia quite apart from the usual manifestations of meningitis, and in this respect the case recorded presents features of more than usual interest.

Burslem.

THE ROYAL VISIT TO THE WEST OF ENGLAND.—The King and Queen visited the Bristol Military Hospitals on Sept. 7th, as well as the wounded at the Southmead Hospital, the Royal Infirmary, and the Beaufort Hospital, Fishponds. On Sept. 8th and 9th they visited Exeter and Plymouth, and inspected the various military hospitals of the two towns, and on Sept. 10th they inspected the Town Red Cross Hospital at Torquay, and the Stoodley Knowle Hospital for Sick and Wounded Officers. Their Majesties spent a considerable time in each case in inspecting the various institutions and chatting to the wounded soldiers, and were very favourably impressed with the various hospitals.

SALVARSAN IN THE TREATMENT OF YAWS.

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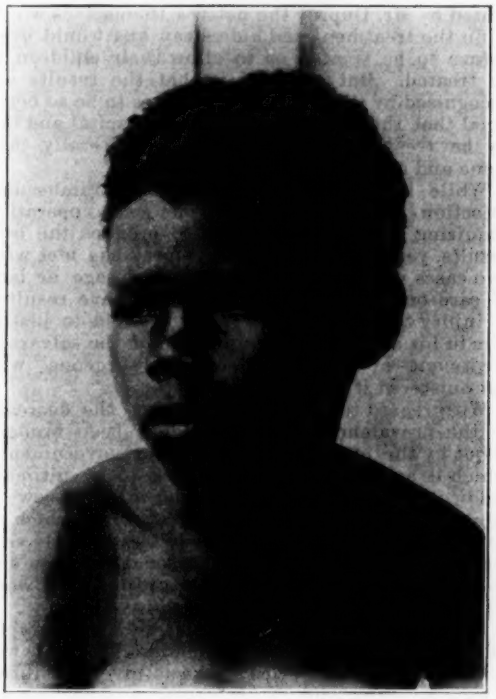
Mr. A. B. Duprey's letter in THE LANCET of June 12th on the Management and Treatment of Yaws Exemplified by Two Cases is an attack on and condemnation of (*a*) the salvarsan treatment of yaws, (*b*) the medical officers engaged in yaws work throughout the West Indies, and (*c*) the action of certain West Indian governments, and as such it cannot be allowed to go unchallenged.

FIG. 1.

Case of yaws before treatment with salvarsan.

FIG. 2.



Condition four weeks after injection of salvarsan.

The salvarsan treatment of yaws is, in my opinion, one of the greatest benefits which the medical profession has ever conferred on tropical countries, and it is of the greatest advantage and importance to these countries that its value should be recognised and appreciated. Though cases of yaws rarely terminate in death, yet the long duration, unpleasant nature, and great contagiousness of the disease render it a serious malady. Moreover, owing to the fact that sufferers from the disease are unable to attend to their work it is of economic importance as a cause of reduction of labour-supply.

Before the discovery of salvarsan the duration of cases of yaws was from several months to several years, and such remedies as were in use—i.e., potassium iodide, mercury, and arsenic—did little more than alleviate the symptoms of the disease. The yaws hospitals which existed under these conditions were naturally very expensive to maintain owing to the long period of residence of patients, and they were of very little value except as a means of segregation.

Mr. Duprey's contention that yaws is "purely and simply a non-contagious skin disease" would, if upheld, do away with the advantage of segregation, but as it is conceded by all authorities—as Castellani, Cantlie, and Scheube—that "yaws is a specific, contagious, and infectious disease" the segregation of yaws patients must be admitted to have had some effect in controlling the spread of the disease, though it may be admitted that the effect was not proportionate to the expenditure involved.

The introduction of the salvarsan treatment has created a revolution in the administrative and medical management of yaws. Speaking from my own experience, I may state that I have personally treated 400 cases of yaws with salvarsan at the Holberton Hospital, Antigua. The average stay in hospital of these patients has been three days. All the cases except two were completely cured by one intramuscular injection of salvarsan. The two exceptional cases were subsequently cured by a second injection of salvarsan. All the cases after leaving the hospital have been traced and examined at periods varying from one month to 12 months, and in every case there has been a complete cure (including the two cases quoted above), and in no case has there been any evil result from the salvarsan treatment with the exception of five cases of a small slough in the buttock near the site of the intramuscular injection. These sloughs were easily removed and cured.

Mr. J. A. Foreman in St. Kitts has also had good results. His record some time ago was 172 cases

cured by a single injection and five cases cured by two injections. There were eight cases that had slight sloughs.

With regard to Antigua and St. Kitts, therefore, it is proved that Mr. Duprey's statement that "if all the cases of yaws treated with salvarsan were to be systematically examined the statistics of failures would be found to be far greater than the average of successes published in the reports" most emphatically does not hold good and the calamities attendant on its use, which he regards with such alarm, are non-existent.

The salvarsan treatment has been used with good results in all the other Leeward Islands, and from no island have any of the evil results deplored by Mr. Duprey been reported or even rumoured.

Here, in Antigua, the treatment has been used now for three full years, and if the facts were as stated by Mr. Duprey the natives themselves would shun the treatment and hide away and would even refuse to be treated or to allow their children to be treated. But the fact is that the results are recognised by the natives themselves to be so beneficial that they walk miles to the hospital and beg to be treated with the injections—literally they come and ask to be "chooked."

While it is admitted that the intramuscular injection of salvarsan is a delicate operation requiring skill and great care to produce the best results, yet the fact that Mr. Duprey has met with two cases which, owing to improper dosage or lack of care on the part of an operator, have resulted in injury to the patient cannot be held to justify him in his sweeping condemnation of the salvarsan treatment of yaws and of the surgeons who administered it in the West Indies.

With regard to his statement that "the decrease in the prevalence of yaws has not been brought about by the efforts of the different governments, which if anything are a drawback to its ultimate eradication," I beg to state that in the Leeward Islands the rapid extermination of yaws which is being achieved by the salvarsan treatment is very largely due to the initiative, personal interest, and encouragement which has been given to this work by His Excellency the Governor.

I beg to submit for publication two photographs of a case of yaws. The first photograph (Fig. 1) was taken on the day the patient was given an intramuscular injection of salvarsan. The second (Fig. 2) was taken four weeks after the salvarsan injection. These illustrations speak for themselves. The beneficial effects of this treatment can be stated to be miraculous.

Antigua, West Indies.

A NEW OPHTHALMIA SCHOOL.—A school for the education of children suffering from ophthalmia, the first of its kind to be opened in the North of England, has been installed at Rose Hill, Northenden. The institution will be maintained by the Manchester board of guardians, and it is proposed that a child entering the school shall remain there if necessary until it reaches the age of 16 years.

THE INCREASING DEMAND FOR MEDICAL WOMEN.—The demand for women doctors, created by the war, has led to increased activity on the part of those who are interested in the Extension Fund of the London School of Medicine for Women. Out of the £30,000 required, the Duchess of Marlborough, the honorary treasurer of the Fund, has received £16,977. The number of new students at this school is greatly in advance of former years, 60 having already applied for enrolment.

OBSERVATIONS UPON 100 CONSECUTIVE OPERATIONS FOR APPENDICITIS.

BY ROBERT M. GLOVER, F.R.C.S. EDIN.,
ASSISTANT SURGEON, ROYAL INFIRMARY, DUMFRIES.

THIS series includes 20 quiescent cases, 48 acute cases, 10 with localised abscess, and 22 in which there was free suppuration accompanied by either a spreading or a general peritonitis. The death-rate was 7 per cent., and five of these fatal cases were moribund from prolonged illness on admission to hospital. One died from delayed chloroform poisoning and one from thrombosis of mesenteric vessels. In all the localised and non-localised suppurative cases free drainage was provided. In all the quiescent and acute cases the abdomen was closed at operation, although in fully one-third of the latter variety the appendix was gangrenous, and there was a small amount of pus which was carefully wiped away.

The appendix was removed in all except 3 cases with localised abscess in which it did not present and could not be easily found. It was considered unwise to make a prolonged search for the organ and thus risk the opening up of non-infected tissue planes with probable consequent spread of the infective process. The appendix was found in almost every conceivable position from the caput cæcum to the under surface of the liver. In about 50 per cent. of the cases adhesions, more or less dense, or bands were encountered.

In almost all the quiescent and acute cases the wounds healed per primam and the average residence in hospital after operation was 21 days. This hospital serves a wide area. Patients often come long distances—up to 80 miles—and are consequently detained a much longer period than if the hospital were situated in a populous town and its patients mainly drawn therefrom.

Progress was uninterrupted in every instance excepting 3 suppurative cases. In 2 of these the bowel wall was found at operation to be very much damaged from the infective process and fæcal fistula resulted in each case. The third case developed a subphrenic abscess. These complications were successfully dealt with.

In one of these fistulous cases the patient, a boy aged 8 years, had been ill with abdominal pain for two weeks before admission. Domestic poultices had been frequently and freely applied to the abdominal wall. The boy felt quite well at times and had risen from bed and played about the streets. On admission he was gravely ill. At the operation a large abscess with several pocketings of pus was evacuated. What was regarded as the appendix was observed as a greenish-black slough lying on the wall of the large bowel, and when the slough was quite gently removed part of the bowel wall came away with it and liquid fæces were ejected from the bowel in a steady, forcible stream. Fortunately, every possible path of infection into the general peritoneal cavity had been carefully closed by packing. It was not easy to control the stream of fæces, as only a small part of the bowel was available on account of adhesions. Resection was quite impracticable in the circumstances. The opening in the bowel was closed as securely as possible with stitches, and the abscess with its various pocketings, one extending into the pelvis, was freely drained. The patient made a good recovery, but with a fæcal fistula. I attempted to close this fistula by a method I had previously employed, extraperitoneally, after R. C. Coffey,[1] but failed, and straightway opened the abdomen, and then I had to dissect a widely puckered connexion of the bowel from the abdominal wall before I could close the fistula.

I think in nearly all such fistulæ it would be well to start with the intention of opening the

[1] Annals of Surgery, June, 1907.

abdomen—first, of course, closing the fistula at its skin end with a purse-string suture. The difficulty I found in Coffey's method was to identify the different layers of the abdominal wall when there is much scar-tissue around the fistula. Besides, the method, when practicable, does not abolish the potentiality of intestinal obstruction afterwards, as it leaves the bowel adherent to the abdominal wall. The subphrenic abscess was drained posteriorly by resecting 2½ inches of the tenth rib, the costal pleura being firmly stitched to the diaphragm before the latter was incised. The cavity soon closed.

The great thing operative experience of appendicitis has impressed upon me is the necessity of early operation. It is life-saving. Every day's delay means at least a much more serious illness than if the patient had been operated on earlier. I may give one example in which the responsibility for delay rests upon myself.

A patient was sent into hospital last December by Dr. J. MacMyn, of Kirkcudbright. There was a definite history of appendicitis, but on admission there was no evidence of toxæmia; nothing abnormal as regards temperature or pulse, no intestinal stasis, no tenderness on superficial or deep palpation. I thought the case might safely wait a few days, and yet at operation I found the appendix gangrenous at its tip and surrounded by a small abscess. The patient made quite a good recovery, but it was a pity there was any delay.

We know that many cases pursue a rapid course. I have on many occasions found copious free seropurulent fluid in the peritoneal cavity within 12 hours of the onset of pain. But even in such cases the prognosis is quite good if interference is early. The danger is in waiting till the patient has absorbed a fatal dose of toxin or the bowel wall has become seriously damaged.

It has interested me very much since reading an illuminating article by Mr. D. P. D. Wilkie[2] to find at operation several cases of empyema of the appendix, without adhesions, where there had been no abnormal temperature or pulse, and almost the only clinical evidences of appendicitis were sudden onset of pain and muscular defence over the organ. Doubtless such cases when operation is delayed account for many of the free suppurative cases.

I have to express my indebtedness to Miss Gordon and her nursing staff for their careful assistance.

Dumfries.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

RUPTURE OF A VENTRAL HERNIA IN AN ADULT WOMAN WITH EXTROVERSION OF THE BLADDER.

BY H. BELL TAWSE, M.B., CH.B. ABERD., F.R.C.S.ENG.,

SURGEON TO THE NOTTINGHAM CHILDREN'S HOSPITAL AND ASSISTANT SURGEON TO THE NOTTINGHAM GENERAL HOSPITAL.

THE unusual features of the following case are my excuse for sending it for publication.

An unmarried woman, aged 56 years, was born with extroversion of the bladder, the abdominal wall from the umbilicus downwards being represented by a thin membrane. Fortunately she had a most able and painstaking mother, with the result that she reached adult age as a strong, healthy woman with the abdominal wall apparently firm and intact and with no sign of a hernia. No attempt had ever been made to deal surgically with the extroversion, the bladder being represented by a tuft-like mass of tissue the size of a crown-piece, with a ureter on each side. During the day she wore a rubber urinal, and at night she slept on a bedpan. She was able to keep herself scrupulously clean, and not the slightest aroma of urine was detectable either about her person or in her bedroom. Only her sister and her medical attendant were aware of her condition, and the latter did not know of the existence of a ventral hernia, which he tells me must have developed during the last five years of her life.

On the evening of March 30th, 1915, the patient had dressed to go out for a walk and went to the lavatory to evacuate her bowels. Something gave way, she felt faint, but managed to struggle without assistance to her bed. Dr. James Millar was sent for, and by the time he arrived she had been able to remove her clothing without much help and without divulging her condition. He found her in bed sitting on a bedpan, which contained numerous coils of small gut and some large gut. When I arrived an hour later she was suffering from considerable shock, her pulse was very feeble, and she complained of much abdominal pain. Most of the small gut with its mesentery and two or three feet of large gut lay in the bedpan. The whole mass was greatly congested with numerous small hæmorrhages in the mesentery and in the wall of the bowel. The bowel was in the early stages of strangulation, and it was bathed with urine.

It was quite out of the question to attempt to replace the bowel or to carry out any surgical procedure in the patient's bedroom, and one had to decide the best means of getting her into hospital without delay. A large sterilised bath towel was slipped beneath the bedpan and pulled well up into the small of the back. The lower end of the towel was folded over the bedpan, which was withdrawn so as to allow the bowel to fall into the towel. Another bath towel was passed round the waist and stitched in position, and the ends of the first towel were stitched in front and behind to this waistband. This was done to try to protect the bowel and prevent the escape of more bowel whilst the patient was on her way to the hospital. A stalwart ambulance man carried her down a narrow staircase without in any way hurting her, and she was taken to the General Hospital.

Under general anæsthesia it was found that a ventral hernia had given way at its base, which seemed to be constituted by the upper border of the mass of tissue representing the bladder. The neck of the sac was too narrow to allow of the return of the bowel, so I slit it upwards for half an inch. After washing the bowel with warm saline solution it was with some difficulty returned to the abdominal cavity. The sac with its covering of unhealthy skin was excised, the edges pared, and an attempt made to find the edges of the recti, but there did not appear to be any muscular tissue in the locality. Half a dozen mattress sutures of silk were inserted about an inch from the edges of the wound, and the lips were apposed in the ordinary way with silkworm gut. At the lower part of the wound complete apposition of the edges was impossible as the sutures would have included the ureters. However, it was felt that the

[2] Brit. Med. Jour., Dec. 5th, 1914.

unavoidable presence here of a small chink might be useful for drainage, and I was reluctant to put a drainage-tube in from fear of the bowel again prolapsing, so I contented myself with putting the patient in the Fowler position and giving copious rectal saline injections. She died five days later from peritonitis.

Nottingham.

A CASE OF SUPERNUMERARY TOES.

BY C. G. HAVELL, M.D. DURH., L.R.C.P. LOND., &c.

THE case was that of a recruit aged 20. He came to hospital asking to have the second toe on each foot amputated as he found all six difficult to accommodate in the military boot constructed for five. I declined such Procrustean surgery, and recommended him to the care of the battalion shoemaker.

Illustrating Dr. Havell's Case of Supernumerary Toes.

The point of interest in the case is the perfect formation of individual toes and of the foot as a whole. Most noticeable also is the massive construction of the fifth metatarsal articulating with the two outermost toes.

X ray examination of the hands showed each to be normal as regards bony formation. At the base of the fifth metacarpal on each hand was a small bud or outgrowth of cuticular tissue projecting about 3 mm. beyond the inner border of the hand.

The only other instance in the family known to my patient of a similar abnormality is a sister. She also had six toes, but had sacrificed one on each foot in a vain attempt to conform to the requirements of the ready-made bootmaker.

Felixstowe.

CASE OF GALL-STONE COMPLICATING APPENDICITIS.

BY FREDERICK DEANE, F.R.C.S. EDIN.,
VISITING SURGEON, GENERAL HOSPITAL, BARBADOS, B.W.I.; LIEUTENANT, R.A.M.C.

THE patient, aged 52, was admitted into the pay wards of the Barbados General Hospital suffering from appendicitis, and after consultation with another member of the staff (who was the patient's medical attendant) I was asked to operate upon the case.

The abdomen was opened in the region of the appendix and the latter was found to be very enlarged and congested. I removed the appendix, and before closing the abdomen examined the interior and found a tumour presenting from the under surface of the liver, and on carrying my incision upwards, parallel to and about an inch below the right costal margin, a very much distended gall-bladder presented itself, distended almost to bursting. I opened the gall-bladder and removed a calculus of about the same size and shape as a pigeon's egg. The gall-bladder was sutured to the abdominal wound and drained externally. The patient made an uninterrupted recovery.

I publish this case merely to show the importance of examining the abdominal and pelvic organs at every operation when permissible, since if I had been content to remove only the appendix the patient would still have suffered from the distressing pains of a distended gall-bladder. He did not present any symptoms of gall-bladder trouble before the operation for removal of the appendix.

Reviews and Notices of Books.

John Shaw Billings: A Memoir.

By FIELDING H. GARRISON, M.D. London and New York: G. P. Putnam's Sons. 1915. Pp. 432. Price 10*s.* 6*d.* net.

John Shaw Billings is chiefly known to the present generation of medical men as the librarian of the Surgeon-General's Library at Washington, as the chief compiler and editor of the Index Catalogue of that library, as the planner of the Johns Hopkins Hospital, and as the superintendent of the New York Public Library. Few, however, know that in addition to all these duties he was an eminent statistician, an authority on public health, and that in his younger days he had passed through the fire as a surgeon in the American Civil War.

Dr. Garrison, an admirable historian of medicine, holds the post of principal assistant librarian in the Surgeon-General's office and carries on with success the torch lighted by Dr. Billings. He has written a most informing biography of his predecessor, a book which, as becomes its author, is clearly arranged and excellently written. In a recent volume of essays entitled "Pendant l'Orage," M. Rémy de Gourmont remarks apropos of a biographical note on the late H. J. Munro by Mr. J. D. Duff: "In no literary *genre* are the English more completely our masters than in that of biography." The qualities which M. de Gourmont ascribes to English biographies are patent in Dr. Garrison's memoir of Billings. Where possible, as, for instance, in the account of the war, he lets Billings tell his story in his own words, and a very simple straightforward narrative it is.

The following note is of particular interest when we remember the date at which it was written—namely, July 3rd, 1863: "I partially resected the elbow joint in two cases and the wrist in three. The wounds generally granulated and took on a healthy appearance with great and unusual rapidity, which fact I attributed to the following circumstances: they were in the open air, were, many of them, exposed for the first few days to a warm rain; they had plenty of good food, and flaxseed poultices were unknown." Exposure to air and washing with warm water has been recorded as a successful method of treatment in the present war by Mr. H. S. Souttar in his book "A Surgeon in Belgium," and in other respects Billings's treatment followed lines with which we are now becoming familiar.

After the Civil War Billings was transferred from field service to the Surgeon-General's Office in the War Department at Washington, and in this department he remained for 30 years—namely, from 1865 until his retirement in 1895; in addition to his departmental work, which during the first ten years was mainly "arid drudgery among invoices and receipts, requisitions and bills of lading, Treasury drafts, and auditors' decisions," he worked at microscopy and bacteriology as well as at the history of medicine. At the beginning of 1866 he and his wife agreed to keep a private diary of their experiences throughout the year. Billings kept his up till the autumn, when it abruptly closed with the following entry: "Keeping a journal is a d——d humbug," an opinion with which those who read the excerpts given by Dr. Garrison from the said journal will not agree. His work on the Johns Hopkins Hospital, the Surgeon-General's Library and Catalogue, and the New York Public Library is all described fully in Dr. Garrison's pages, and the result is a finished picture of a great personality.

Billings died from pneumonia on March 11th, 1913, after an operation for calculus, entering upon that "unknown phase of existence" as to which he put forward the following hypothesis in an address at the International Congress of Medicine in London, 1881: "When we examine that wonderful series of wave marks which we call the spectrum we find as we go downwards that the vibrations become slower, the dark bands wider, until at last we reach a point where there seems to be no more movement; the blackness is continuous, the ray seems dead. Yet within this year Langley has found that a very long way lower down the pulsations again appear, and form, as it were, another spectrum; they never really cease, but only change in rhythm, requiring new apparatus or new senses to appreciate them. And it may well be that our human life is only a kind of lower spectrum, and that, beyond and above the broad black band which we call death there are other modes of impulses—another spectrum—which registers the ceaseless beats of waves from the great central fountain of force, the heart of the universe, in modes of existence of which we can but dimly dream."

Diseases of the Skin.

By JAMES H. SEQUEIRA, M.D. Lond., F.R.C.P. Lond., F.R.C.S. Eng., Physician to the Skin Department and Lecturer on Dermatology at the London Hospital, &c. Second edition. With 48 plates in colour and 238 figures in the text. London: J. and A. Churchill. 1915. Pp. 650. Price 25*s.* net.

THE study of the diseases of the skin has never been easy, and after qualification many practitioners regret greatly that as students they did not devote more attention to dermatology. It is not that this branch of medicine is not adequately taught, for at the present time in London and in all the large cities there are able exponents of dermatology; the student's attitude is mainly due to the fact that dermatological questions are rarely set at the examinations, and the average student hopes that he will not encounter such. If some knowledge of the affections of the skin were required at every final examination, the student would take care to include it among the subjects to which he devotes special attention.

And as there is no lack of teaching so there is no lack of books on dermatology, suited to students of all calibres, and among these we do not know one better calculated to assist the student or practitioner who intends to take up seriously the study of the diseases of the skin than Dr. James Sequeira's treatise. There are many illustrations and many coloured plates, and, as might be expected in a work on dermatology, they form a feature of the book, and in this instance a very valuable feature. In the coloured plates, each one representing most typically a disease of the skin, we have the very tint of the lesions, and all who have endeavoured to obtain in a drawing a true picture of an affection of the skin know how very difficult the task is. The exactitude with which the colours have been reproduced is a genuine triumph of colour process work. A large number, more than 200, of black-and-white figures in the text are nearly all original. The student is

thus provided with a good choice of typical illustrations by means of which his powers of diagnosis will be much assisted. We have taken note of the illustrations before discussing the text, but of this we may say that the author has succeeded in making it worthy of the pictures. A by no means easy subject is treated in the simplest form that is possible if the work is to be comprehensive. The definitions are brief but accurate, the accounts of the signs and symptoms give a clear story of the disease, and the treatment is suggested sufficiently fully to enable the practitioner to carry it out in most cases.

Three appendixes are of value: one is on mineral waters, a second on the internal treatment of skin diseases in which the mode of action and the method of administrations of the more important drugs are described, and a third deals with the external treatment of these affections.

The Treatment of Fractures, with Notes upon a Few Common Dislocations.

By CHARLES LOCKE SCUDDER, M.D., Surgeon to the Massachusetts General Hospital. Eighth edition, revised. With 1057 illustrations. London and Philadelphia: W. B. Saunders Company. 1915. Pp. 734. Price 25*s.* net.

A STANDARD work such as this which has reached its eighth edition needs little recommendation, but as the seventh edition appeared in 1907 it seems desirable to inquire how the author has dealt with the changes in the treatment of fractures which have been advocated in the interval.

In his preface Dr. Scudder takes a cautious attitude, "believing that it is unwise to incorporate in permanent form in a book of this sort suggestions which have not been thoroughly tried out and found to be of permanent practical value." Accordingly not much space is given to the subject of plating in fractures, because he holds that this procedure is only justifiable where there are definite indications, and that operative treatment is not to be undertaken lightly. The method of direct extension, which consists essentially in passing a pin or nail through the lower fragment and through its agency applying the extending force, receives, we think, no mention. The author refers in his preface to the autogenous bone-graft for cases of delayed union and non-union as the greatest recent advance in treatment, yet in the body of the work the only mention of the method which we have been able to find consists of three lines in the section on ununited fractures of the lower jaw, and no directions are given for the technique.

But what might be blemishes in an exhaustive treatise intended for the use of hospital surgeons and experts may be merits in a book if it is intended as a guide for general practitioners. The operative procedures which have given Sir Arbuthnot Lane such excellent results in the treatment of recent fractures are out of the reach of the country doctor, especially in thinly peopled districts, such as some parts of North America, and he must perforce be content with more conservative measures. In the choice of such methods and means of treatment, as well as in the diagnosis of injuries, he could have no safer guide than Dr. Scudder, who writes with all the authority which years of surgical experience in a great general hospital have provided for the exercise of his critical ability. Besides many new illustrations, the chief additions to this issue are to be found in the sections on fractures of the jaw, the acetabulum, the great tuberosity of the humerus, and separation of the lower epiphysis of the femur. In all these the new material is of value.

At the present time one naturally turns to the chapter on gunshot fractures. Unfortunately, this does not appear to have been revised, for the bullets figured are without exception the comparatively blunt-nosed ones of the time of the South African War in place of the pointed bullets introduced some four or five years ago. By an obvious misprint the muzzle velocity of the Mauser bullet is given as 238 feet per second. It is melancholy, in view of the last twelve months' experience, to read the author's anticipation that the wounds in future would be less grave and more humane. He, no more than the rest of us, knew the capabilities of the German. In this section the author is much indebted to Sir George Makins's work.

The book would be decidedly more convenient for reference if it had a fuller and more accurate index. But it is a valuable handbook, and especially useful for its excellent illustrations, particularly the reproductions of radiographs of the epiphyses.

An Index of Treatment by Various Writers.

Edited by ROBERT HUTCHISON, M.D. Edin., F.R.C.P. Lond., Physician to the London Hospital, &c.; and JAMES SHERREN, F.R.C.S. Eng., Surgeon to the London Hospital. Seventh edition, revised and enlarged. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. Bristol: John Wright and Sons, Limited. 1915. Pp. 1143. Price 21*s.* net.

SINCE we first reviewed this book on its appearance in 1908 six further editions have been issued—a gratifying evidence of success which establishes it beyond the reach of criticism. Its general plan and high standard of excellence are doubtless well known to our readers.

Of the present edition we will only note that it has been revised throughout, that the surgical editor is now Mr. James Sherren, and that a few entirely new articles are included. One on psychoneuroses is by Dr. H. Crichton Miller, who confesses that no two authors agree as to the meaning of this term, and devotes his contribution to a study of Freud's method of psychanalysis. The article is interesting, but we hope it will not lead the inexperienced to undertake experiments in this delicate mode of treatment. Captain Hayward Pinch deals with radium therapy, this article being separate from one on radiotherapeutics which had appeared in former editions. A special article is devoted to specific therapy, comprising such agents as serums, vaccines, and culture-products of bacteria. Here and there an allusion to these recondite agents is permitted in the general articles, as, for example, under the heading "Pneumonia," where a paragraph on the serum therapy of this disease is included—a peculiarly cryptic utterance, the key to which is possibly afforded by the hypothesis that the author is in reality dealing with treatment by means of vaccines, and as it would be absurd to suppose that he does not know the difference between a vaccine and a serum, we must conclude that the paragraph heading is a printer's error. Elsewhere the advice in the special article sometimes contradicts that given by the writers on the different diseases. The use of salvarsan is briefly dealt with; the author states that salvarsan *per se* is not a cure for syphilis, and that mercurial treatment is necessary in addition. He regards salvarsan as more efficacious than neosalvarsan.

Transactions of the Life Assurance Medical Officers' Association for 1912–13. Pp. 266.

THE Life Assurance Medical Officers' Association was founded in 1894 with the object of discussing the medical aspects of life assurance in order to advance the knowledge of the subject and to promote unity of opinion. In 1908 its scope was extended to include the medical aspects of other forms of insurance. In pursuance of this aim, and in view of the wide extension of insurance to large classes in the community, it has now been decided to change the name of the association to the "Assurance Medical Society." We think this alteration of title a wise one; it is less cumbersome, and indicates the scope of the society's work.

The present volume contains many interesting communications. One which gave rise to a considerable amount of discussion was by Mr. Roland Burrows, M.A., LL.D., on Legal Problems relating to Medical Services under the National Insurance Act. Several legal aspects of the Act are touched on, especially those which refer to the duties of the patient and doctor towards one another. Mr. Burrows criticises the rules laid down for the conduct of persons in receipt of medical benefit. He says that a common complaint is the constant disregard by many patients not only of the practitioner's directions, but also of the most elementary consideration of the doctor's convenience. That class of patient is severely discouraged by the Act and certain penalties can be inflicted for a deliberate infringement of the regulations. Amongst other communications brought before the society were the following: Prognosis of Heart Affections from the Life Insurance Aspect, by Sir James Mackenzie; Notes on Life Assurance in Egypt, by Dr. H. Benjamin Day; and Life Insurance in India, by Dr. Adrian Caddy.

It will thus be seen that the proceedings cover a fairly extensive range of subjects, considering that the debates are limited to matters connected with insurance.

Trattato Elementare di Patologia Esotica, ad uso di Medici e Studenti.

By UMBERTO GABBI. Rome: Tipografia Bertero e C. 1915. Pp. 350.

Professor Gabbi's name is well known as one of the editors of the publication, "Malaria e Malattie dei Paesi Caldi," and as an authority on tropical diseases. We therefore welcome this practical elementary text-book on this branch of medical science as coming from the hand of one eminently capable of dealing with it.

The arrangement of the book in three divisions—viz., infective, parasitic, and tropical diseases—conduces to a clear conception of the subject as a whole, while the scheme and grouping of the descriptive text will render the volume most serviceable to the student in search of conciseness and to the practitioner who desires to avail himself of the excellent bibliography appended to each separate disease. As a text-book there is little to criticise and much to praise, notably the arrangement and excellent typing amplified by photogravures and coloured plates. Naturally the most recent investigations by Professor Gabbi's compatriots, such as Castellani, Marchiafava, Celli, and others, are included in this work, while the researches of British scientists—Manson, Ross, and Sambon—are also given a prominent place. Turning to the subject of pellagra we note with interest that the measures of prophylaxis taken by the Italian Government hinge entirely on the maize theory of this disease and are limited to prohibition of the importation and use of unsound maize, to the appointment of inspectors of granaries and the institution of sanitary houses and "pellagrosari" for a rational cure of those affected. We find no mention, however, of Alessandrini and Scala's theory that the disease may be due to contamination of the water-supply by mineral colloids.

Sand-fly fever is just now attracting attention owing to the campaign in the Dardanelles, and the author has previously contributed to the literature of the subject, based on his experience of the disease in Messina and the Calabrian littoral. British observers have recently laid stress on the presence of bradycardia, even when the temperature is high, as a peculiar and also useful diagnostic sign—we refer to recent articles by Captain G. F. Graham, I.M.S., of Chitral, and Captain J. W. Houston, R.A.M.C., of Peshawar. But Professor Gabbi seems to lay little stress on this point and passes it over as of secondary importance, describing the frequency of the pulse as proportionate to the rise of temperature and stating that bradycardia is only sometimes observed, although very rarely. These, however, are trifling omissions, and from the excellent bibliographies, previously mentioned, attached to each separate disease we feel sure that the author has availed himself of every possible source of information with regard to his subject, and has produced a text-book second to none in his own country and abroad.

LIBRARY TABLE.

Memento de Massage: Application du Massage au Traitement des Blessures de Guerre. Par le Dr. H. SOMEN, Chef du Service de Mécanothérapie du Mans. Avec 37 planches. Paris: Baillière et Fils. 1915. Pp. 72. Price Fr. 1.50.—A cushion or pillow and a bed or couch comprise all the equipment, and the hand of the operator is the only instrument, required for the practice of massage, or *kinésithérapie*. Vaseline or talc is also needed, the latter for ordinary cases, the former when the treatment is prolonged. The author distinguishes six varieties of procedure: pressure, friction, *effleurage* (skimming over the surface), kneading, percussion, and vibration. The effects may be either sedative or stimulant. The details of manipulation are described, and the application of the treatment to various descriptions of wound injury, such as cicatrices, muscular atrophy, stiff joints, anæsthesia, and derangements of circulation. Thirty-seven plates show these details very satisfactorily.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Medicine. Edited by WILLIAM OSLER, J. ROSE BRADFORD, A. E. GARROD, R. HUTCHISON, H. D. ROLLESTON, and W. HALE WHITE. Vol. VIII., No. 32, July, 1915. Oxford: At the Clarendon Press; London, Edinburgh, New York, Toronto, and Melbourne: Humphrey Milford. Subscription price, 25*s.* per annum. Single numbers, 8*s.* 6*d.* net each.—The contents of this number are: 1. The Pituitary Gland in Diabetes Mellitus and Disorders of the Glands of Internal Secretion, by H. J. B. Fry. An interesting study is given of the histological characteristics of the pituitary gland in diabetes, on the basis of eight cases carefully examined post mortem. It was found

that definite histological changes occur in the anterior lobe of the pituitary in this disease in the form of adenomatous masses of the eosinophilic cells, colloid invasion of the anterior lobe, and areas of cellular degeneration. In cases of acute pancreatitis and carcinoma of the pancreas the histological changes are absent or slight. In regard to other diseases of the glands of internal secretion, it was found that in myxœdema an increase in weight of the pituitary occurs, due to increase of connective-tissue elements and hyperplasia of the chief cells. In goitre there is hyperplasia of the chromophile cells, especially of the eosinophilic glandular cells, and increase of colloid in the interglandular cleft. In a case of Addison's disease and in one of status thymo-lymphaticus no histological changes were observed. A bibliography, two plates, and full protocols of the examinations of the cases studied are appended. 2. Achalasia of the Cardia, by Arthur F. Hertz. The condition to which the names idiopathic dilatation of the œsophagus and cardiospasm have been applied is here carefully studied, and the name of achalasia of the cardia is proposed for it. Dr. Hertz's observations tend to confirm the opinion expressed by Dr. H. D. Rolleston in 1895, that it is due to the absence of the normal relaxation of the cardia. Some interesting observations with the X rays and opaque meals show that the cardia normally relaxes when each peristaltic wave passing down the œsophagus in the act of swallowing reaches its lower end. In the condition of achalasia this relaxation does not occur, and as a consequence the food stagnates in the œsophagus. That there is no actual cardiospasm is shown by the ease with which an india-rubber tube filled with mercury will drop through the cardia into the stomach, and also by the absence of hypertrophy of the cardia in these cases. Dr. Hertz discusses the causation of this condition, and points out the importance of an X ray examination in the diagnosis. In regard to treatment, he has found the passage of a rubber tube containing mercury both simple and effective. 3. The Diagnosis and Significance of Gastric Hyperacidity, by F. W. Rolph. It is suggested that according to the modern conception of acidity it is impossible to have an indicator for free hydrochloric acid, and that in examination of the gastric contents it is possible by the judicious use of different indicators to determine the concentration of hydrogen ions, but not what acids it is that by their dissociation are giving rise to these free hydrogen ions. Dr. Rolph brings forward evidence to show that the symptoms of hyperacidity go with a concentration of hydrogen ions in the gastric contents after a test meal which is indicated by a reaction with tropæolin 00, and is never given when these symptoms are absent. 4. Sclerema Neonatorum, by W. S. Paterson. Two cases of this condition are recorded and an interesting analysis of the literature is given. Among the general conclusions arrived at are the following: that sclerema neonatorum is to be recognised as a definite disease and that it probably includes also the condition called "pseudo-sclerema." Its most characteristic feature is the palpable subcutaneous induration. Microscopic examination shows subcutaneous infiltration with small cells and increased fibrosis, with atrophy of the adipose tissue. Its origin is probably due to some microbic infection. 5. The Early Diagnosis of Pulmonary Tuberculosis, by Edward G. Glover. The importance in the diagnosis of the activity of doubtful pulmonary physical signs of a study of other factors, such as tuberculin tests, opsonic index and complement-fixation tests, is carefully studied. Details are given of the investigation of a series of such cases, and some interesting conclusions are arrived at, the most important being that it is not justifiable to diagnose active tuberculosis on the strength of impairment of an apex only.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., Professor ALEX. MACALISTER, Professor ARTHUR THOMSON, Professor ARTHUR KEITH, and Professor ARTHUR ROBINSON. Vol. XLIX. Third Series, Vol. X., Part IV. July, 1915. London: Charles Griffin and Co. Annual subscription, 21*s.* post free.—In every anatomical department there is kept a book in which are recorded such anomalies as are encountered in the ordinary course of work in the dissecting-room. A vast store of material has been accumulated in this way, and perhaps some day the Anatomical Society will see its way to making arrangements for the sorting and systematic classification of it. The former collective investigations conducted by the society produced very good results, and it is certain that a proper sifting of the "anomaly books" would yield a vast amount of definite knowledge. And meanwhile such a method of work would save the *Journal* from what it has shown itself in danger of degenerating to of late—a glorified "anomaly book." No less than seven papers in the present issue deal solely with anomalous arrangements, and it is to be doubted if the *Journal* is serving the best purpose by publishing and illustrating so large a proportion of papers which merely make record of variations.—Professor F. G. Parsons has a most useful paper on the Difficulty of Sexing the Femur. It is a paper which deals with the characters of bones, the age and sex of which are definitely known, and therefore, strange though it may seem, is an extremely unusual piece of work. Papers which deal with the sexing of bones are legion; workers who ascribe sex to bones and then deal with their characters as though the one thing definitely known of them was their sex are common enough; researches carried out on bones of known sex are rare indeed. It matters not to what school the worker belongs; he may be an anatomist, a zoologist, or a mathematician; his work may run into a whole series of papers and he may illustrate it by curves, tables, and charts of the utmost complexity; yet he will not add to the building of real knowledge unless he knows as a fact that the bone which he designates as female came from the body of a woman. This sounds a very simple truth, and yet in the midst of all the elaborate work that is being done in osteometry it is often entirely lost sight of. To Professor Parsons, therefore, the science of anatomy is indebted for this contribution, conducted along the only lines that can lead to real knowledge. It is to be hoped that this research is only a preliminary one, and that other parts of the skeleton will be treated in like fashion; we would look forward with particular pleasure to the appearance of a paper upon the sexing of the skull treated in a similar manner.—Professor F. Wood-Jones contributes an article upon the Chelonian Type of Genitalia, which is an introduction to a further study of the same system in the mammalia.—In a paper upon the Epiphysis of the Head of the Femur Dr. Thomas Walmsley brings forward evidence to show that the blood-supply derived *viâ* the ligamentum teres is negligible as a source of epiphyseal nourishment.—Dr. J. R. D. Holtby contributes a note on the Posterior Cruciate Ligament of the Knee-joint, and makes some observations on the frequency of that additional element in the ligament which was so exhaustively studied by Higgins under the name of "Humphry's ligament."—The cruciate ligaments are also dealt with by Mr. Edred M. Corner in a short paper, the original matter in which is considerably less than would be supposed by a mere reading of the title.—We have expressed our doubt as to the advisability of the unlimited recording of isolated anomalies in the pages of the *Journal*. We would also express our doubt as to the desirability of publishing papers which assume that text-book statements necessarily represent the limits of modern anatomical knowledge and teaching. It would be easy to find very many structures concerning which the teaching in the text-books of anatomy is "abstruse and complicated," and many concerning which the text-book teaching is absolutely wrong. That is the fault of the text-books; but it is perhaps needless and extravagant to reproduce three blocks direct from current works to illustrate these errors.

The Annals of Tropical Medicine and Parasitology, Vol. IX., No. 3.—Of the nine papers published in this number five are contributed jointly by Professor Warrington Yorke and Dr. B. Blacklock, all of the five articles being reports of the Thirty-second Expedition of the Liverpool School of Tropical Medicine, 1914–15. The principal object of this expedition was to find a site suitable for the permanent research laboratory which the Liverpool School proposes to erect in Sierra Leone, and as to which the expedition have made definite recommendations. During their sojourn in Sierra Leone a survey was made of the chief parasitic diseases of man and domestic stock, and among other scientific research work undertaken was an inquiry dealing with the bionomics of glossina palpalis in Sierra Leone, with special reference to its pupal habitats. This forms the subject of the first

report, and it appears from it that Professor Warrington Yorke and Dr. Blacklock found the breeding grounds of this fly to be not so strictly limited to the immediate vicinity of water as had hitherto been believed; they may, indeed, occur quite independently of fresh water and at least a quarter of a mile from sea-water. Although G. palpalis is to be found in considerable numbers in mangrove swamps and may travel in these to a distance of at least half a mile from dry land, the swamps do not constitute a breeding-ground for the fly. The pupæ do not hatch when subjected to daily flotation on sea-water. The ground around the trunk of oil palms which have not been stripped of their lower petioles provides an excellent breeding-ground for G. palpalis. This fly can breed in localities in which practically the only tree is the oil palm. Stripping this palm of the lower petioles would suffice to destroy the breeding-ground in such localities. This first report is well illustrated by a number of plates and by a map.—The second report deals with the food of G. palpalis in the Cape Lighthouse Peninsula, Sierra Leone. 8 per cent. of the wild G. palpalis in this district were found to contain in their alimentary canal recognisable red blood cells—7 per cent. of mammalian and 1 per cent. of unknown origin. From the experiments carried out it was ascertained that this fly can take up, under certain conditions, fluid other than blood, and when starved the insect can be seen to insert its proboscis into oranges, bananas, or other fruit.—The third report is on the reservoir of the human trypanosome in Sierra Leone. The human trypanosome was discovered in an ox, but it is impossible at present to form any conclusion as to the extent to which domestic stock may harbour this parasite. It is probable that it will at least be found as difficult to recognise the infection in cattle as in man. The existence in domestic stock of a potential reservoir of T. gambiense will have to be taken into account when prophylactic measures are contemplated.—The fourth report is entitled "Notes on Certain Animal Parasites of Domestic Stock in Sierra Leone." It appears that cattle are not bred to any extent in the colony or in most parts of the Protectorate. Bullocks, however, are imported from French Senegal in considerable numbers, and gradually find their way down to Freetown for slaughter. The serious epidemics which occur among the cattle of Sierra Leone have been attributed to various causes, but their real nature is still obscure. Trypanosomiasis of cattle is common, T. congolense and T. vivax are the parasites most frequently met with. T. gambiense was only discovered once. About 5 per cent. of the animals examined were infected with Piroplasma bigeminum. Theileria mutans was encountered in between 20 and 30 per cent. of the cattle in which examination was made.—The fifth report of the expedition is on the subject of ankylostomiasis in dogs in Sierra Leone. These animals are heavily infected, the species found being Ankylostoma caninum and A. ceylanicum, which were present in about equal numbers.—Dr. H. Fraser and Dr. W. Fletcher, of the Institute for Medical Research in the Federated Malay States, discuss briefly the cultivation of the leprosy bacillus, and supplement the remarks they made in their paper previously published in THE LANCET (Vol. II., 1913, p. 918). They advance further arguments in refutation of the contentions of Dr. H. Bayon on this subject.—Dr. H. B. Fantham treats of the spirochæta bronchialis, Castellani, 1907, together with remarks on the spirochætes of the human mouth. This contribution is really a report of the expedition sent by the Liverpool School of Tropical Medicine to Khartoum in 1913. The spirochæta bronchialis is an organism presenting marked polymorphism, and is the producer of bronchial affections in the Sudan and elsewhere. The spirochætes in one or another form leave the mouth in the spray with expired air and by way of the nasal secretions, and they thus pass from one person to another. S. bronchialis, in Dr. Fantham's opinion, will probably prove to be of more frequent occurrence than is at present supposed. The report is illustrated with a plate showing this organism and other varieties of spirochætes found in the human mouth.—Dr. J. B. Davey furnishes a short paper on the Etiology of Juxta-articular Subcutaneous Nodules, to which his attention was directed while examining natives of Nyasaland for sleeping sickness.—The last contribution is by Professor J. W. W. Stephens, who continues his series of studies in blackwater fever and supplies a brief note on an interesting case of fatal quartan malaria associated with blackwater fever in a European from West Africa. This number of the *Annals* is full of information of interest and of value, both from the scientific and the practical point of view.

Brain: A Journal of Neurology. Edited by HENRY HEAD, M.D., F.R.S. Vol. XXXVII., Parts II., III., and IV.—These numbers of *Brain* contain excellent papers. The first, in Part II., deals with the phenomenon of "Tonic Innervation" and its Relation to Motor Apraxia, and is by Dr. S. A. Kinnier Wilson and Dr. F. M. R. Walshe. The condition, which was alluded to in *Brain* in 1908 by the former author as "tonic perseveration," is now more specially studied through observation of two further instances of the condition, and the name adopted, tonic innervation, is rightly regarded as a better descriptive term. The condition essentially consists in the inability of a patient suffering from it to let go an object placed in the hand affected. Instead of letting go when asked to the patient grasps it more firmly. The relation of this condition to "perseveration," strictly so-called, to apraxia, to pyramidal system changes, and to myotonia, are considered, and two cases in which this phenomenon was present are described at length, with excellent illustrative photographs.—The second paper, by Dr. Ramsay Hunt, of New York, describes under the name "dyssynergia cerebellaris progressiva" a chronic progressive form of tremor, similar in many respects to that of insular sclerosis, which is said, but without any anatomical evidence, to be cerebellar in origin.—The third paper, by Dr. F. M. R. Walshe, is one of great interest and importance, dealing with the physiological significance of the reflex phenomena in spastic paralysis of the lower limbs. The observations confirm Babinski's, who describes two forms of spastic paralysis—paraplegia in extension and paraplegia in flexion. In the former both flexor and extensor muscles are in a state of heightened reflex activity, while in the flexed type only the flexors are in this state, the extensor showing diminished or absent reflex action. In cerebral lesions the extended type is seen, in spinal cord affections the flexor, and most commonly in severe diffused lesions, not in pure pyramidal sclerosis, the fact being that to produce this condition interruption of an extra-pyramidal efferent tract is necessary, the lesion of this extra-pyramidal tract abolishing the reflex tone of the extensor muscles without affecting the reflex activity of the flexor muscles. The outcome of this is to show that there is a double system of motor innervation of the lower limbs, such as was first suggested by Hughlings Jackson and verified experimentally in animals by Sherrington.—The first paper in the double number, Parts III. and IV., is by Harvey Cushing and Clifford B. Walker and is devoted to a consideration of the distortions of visual field which occur in cases of brain tumour, especially in the region of the hypophysis. In 101 cases in which the lesion was in this region 81 had deformation of the visual field. In 26 this deformity tended to be bitemporal, in 12 homonymous, in 8 cases it could not be classified, and in 35 there was blindness in one or both eyes, making it difficult to tell to which group they belonged. The early alterations in the field are studied and also the changes, sometimes surprisingly rapid, which take place when pressure is relieved by operation. There are many points in the paper worthy of the attention both of ophthalmic surgeons and of neurologists.—The second paper is a Demonstration of the Spirochæta Pallida in Chronic Parenchymatous Encephalitis (Dementia Paralytica), by Dr. James McIntosh and Dr. Paul Fildes, and is well illustrated.—Dr. E. D. Macnamara and Dr. E. B. Gunson describe some cases of "crossed reflex" associated with pain, and they discuss the bearing of the crossed reflex on the theory of the existence of automatic spinal centres.—A case of motor dyspraxia and paraphasia associated with tumour in the supramarginal convolution is described by Dr. E. G. Fearnsides, and a hitherto undifferentiated nucleus in the fore brain (nucleus subputaminalis) is described by Dr. Giuseppe Ayala.

MILITARY HOSPITAL ACCOMMODATION IN MALTA.—In addition to the hospitals organised by the St. John Ambulance and British Red Cross Society the Sliema Elementary School, one of the largest buildings in Malta, is being converted into a hospital by the Government for the use of wounded and invalided soldiers from the Dardanelles.

New Inventions.

THE "NEWMAN" PORTABLE DISINFECTOR.

WE have had an opportunity of making a personal inspection of this machine and we find that its construction is at once simple and convenient, as will be seen from the illustrations below, while the method of disinfection employed is recognised as effective. Portability is an important point. The machine we examined measured when closed (Fig. 1) 2ft. 9in. by 2ft. 9in. and 1ft. 6in. high; when open the height is increased to 6ft. 9in., so that there is ample room for bedding, clothes, &c., in the extended chamber (Fig. 2). At the base of the disinfector an iron pan or tray slides in and out on grooves provided. Into this pan is placed 1½ gallons of water together with 8 ounces of formalin (40 per cent. formaldehyde) solution. Beneath this is placed an oil furnace. This acts under air pressure obtained by a small force pump and gives a hot non-sooty flame similar to a gas Bunsen burner. A current of steam with formaldehyde is thus passed through the disinfecting chamber, an outlet being provided at the top, which also serves to show when a steady supply of steam and disinfectant is being maintained. At the end of the steaming and disinfecting process the pan is taken away and a baffle plate is put in its place. By this means the contents of the disinfector are submitted to a dry heat before they are taken out. The pan and furnace can be used independently of the chamber when room disinfection is required. A number of tests have been made with this machine in regard to its destructive action both on bacteria and vermin or their eggs. The results were in all cases satisfactory. The apparatus seems well adapted in many directions for general disinfecting purposes. It can easily be brought to the spot where the infected articles are, and the work of disinfection can be done there. This is important, as it is not desirable, and it is often inconvenient, to carry infected articles any distance from the point of infection. The disinfector is made in four sizes—No. 1 for the disinfection of books, No. 2 for home use, No. 3 for hospitals, and No. 4 for large disinfecting operations in hospitals. The manufacturers are the London Warming and Ventilating Company, Limited, 20, Newman St., Oxford St., London, W.

FIG. 1.

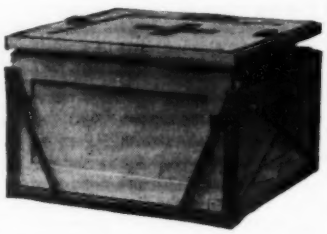
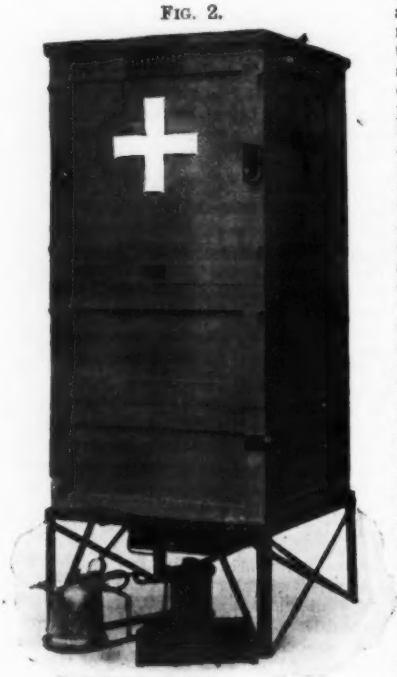


FIG. 2.



REPORT OF DEPARTMENTAL COMMITTEE ON DRUG TARIFF UNDER NATIONAL INSURANCE ACT.

THE report of this committee, who have examined witnesses and conducted certain investigations, is now published. It states, *inter alia*, that the practitioners in any given area are solely responsible in their individual discretion for the amount and character of the medicine supplied to insured persons. This is given as a reason for a system of drug-supply so constructed as to afford practitioners an inducement to exercise their discretion in a reasonably, but not unduly, economical manner; and hence the prices specified in the tariff are at present not absolute prices which the chemist is entitled in all circumstances to receive. But the committee do not consider the origin and history of the discounting clause in the agreement between chemists and Insurance Committees. They make the far-reaching statement that the only question involved is as to the distribution of a fixed annual sum between practitioners and chemists.

The present tariff is condemned. It is said that even if the total demand which the present tariff makes upon Insurance funds as a whole were the lowest sum for which the whole drug-supply could reasonably be provided, and in that sense commercial, it would nevertheless be obvious that no tariff can be considered as on a commercial basis so long as it gives to some chemists much more than is fair and reasonable, and to others much less.

It is held that the present tariff gives rise to such results from the attempt to include a payment for establishment charges in the price for ingredients of a prescription; and when personal services are not adequately remunerated by a proper dispensing fee.

The report states that revision is necessary, and recommends a strictly cost price tariff of charges for the ingredients of a prescription; dispensing fees per prescription graded solely by the degree of time and skill required in dispensing the several classes of medicaments; and a charge per prescription to cover establishment expenses.

Further, it says that as the rates of remuneration have been fixed on a commercial basis it follows that they will not admit of any discounting. The present discounting clause must therefore be abolished.

It is also stated that with the varied and varying nature of medical treatment there is no prospect of any flat-rate system being adopted as regards the price of drugs.

This report is a clear statement of opinion as far as it goes. It makes certain definite recommendations. Drugs to be charged at cost price, and certain payments for services rendered.

These charges make for a more logical position as to the remuneration of the chemist.

The discounting clause is to be dropped from the agreement between chemists and Insurance Committees. This at once goes back to the initial statement in the report that the practitioners are solely responsible for the amount and character of medicine supplied to insured persons. The payments to chemists in a given area are no longer limited to an annual sum at the rate of 2*s.* per head of the insured population. The whole of the money set apart for "medical benefit" becomes available to pay the accounts of the chemists. How far this may diminish the payments to the medical practitioners in any given area cannot at present be seen. At certain times and in certain circumstances it may leave nothing for the remuneration of the medical practitioner.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 18, 1915.

International Medicine.

THIRTY-FOUR years ago the seventh session of the International Congress of Medicine was held in London, when the President, Sir JAMES PAGET, that good and eloquent man, used the following weighty words in his opening address: "We may declare that, as we who are many are met to be members of one body, so our work for science shall be one, one though manifold; that as we, who are of many nations, will for a time forget our nationalities and will even repress our patriotisms, unless for the promotion of a friendly rivalry; so will we in our work, whether here and now, or everywhere and always, have one end and one design—the promotion of the whole science and art of healing." And again: "We may be able to observe the utility even of error. We may not, indeed, wish for a prevalence of errors; they are not more desirable than the crime and misery which evoke charity. And yet in a congress we may palliate them, for we may see how, as we often read in history, errors, like doubts and contrary pleadings, serve to bring out the truth, to make it express itself in clearest terms and show its whole strength and value. Adversity is an excellent school for truth as well as for virtue." We have been reminded of these noble and true words, and of the ideal therein set forth as the one at which every international gathering should aim, by receiving a communication for publication in our columns which had been prepared as a contribution to the proceedings of the International Congress for Obstetrics and Gynæcology, a meeting which had it not been for the war would at the present date be taking place in New York. Is it possible that in times not far distant international gatherings for the promotion of medical learning will again take place?

Medicine knows no geographical limits or racial distinctions; medicine is the most essential expression of human service to all human beings. But when peace arrives after this war the representatives of medicine will not as "members of one body" sit together in friendly conclave of any representative sort. And we think that the exclusion of Austrian and German medicine from a friendly share in international medical congresses, even if a formal representation of the central European empires occur, will be felt by those countries as one of the greatest humiliations that the conduct of the European war has brought upon them. They have compelled Science to remember nationalities as the only practical way of maintaining the standards of civilisation or the hopes of moral progress. Peace is as yet too far distant to enable us to forecast what will be the attitude of the present belligerents towards one another when the struggle is over, but it seems unlikely that medicine will call upon her votaries either to forget their nationalities or repress their patriotisms. Yet though it be impossible for medicine to ignore, to excuse, or to forgive the blows struck against world-justice until the offenders have expiated their sin, or at least have shown by an attitude, not assumed through compulsion but inspired by conviction, that similar deeds of ruthless ambition are not contemplated in the future—with this large reserve the outcome of the war will certainly be a fuller spirit of internationalism in medical science. The various allied nations, and as regards our own Empire the various races composing it, fighting side by side and shedding their blood for each other, giving their dearest and best for the sake of liberty and humanity, are attaining to a really fraternal position, one of the fruits of which will be developments in medicine of vast importance. This is certain because of the intimate part that medicine now plays in the conduct of life. The allied nations, in the sympathy of pain and pride of achievement entailed upon them by the war, will come to understand each other's national aims and social problems to a degree never before possible; the reality of the different tasks before each will be appreciated by the other, interchanges of experience will be given, not in the spirit of rivalry but in that of community, and rapid progress will follow. Indeed, it has already begun.

The arts and sciences of Europe and in great part of the United States are now devoted towards the fulfilment of two ends which seem at first sight incompatible. On the one hand, chemistry, metallurgy, and engineering are working day and night to provide, improve, and if possible perfect, munitions of war, to feed, clothe, and transport troops, and to place them in the most favourable conditions for waging war—that is, to enable them to kill or disable their enemy fellow-men at the least possible risk to themselves. On the other hand, medicine, surgery, and hygiene are toiling, and in a great measure successfully, to prevent or minimise sickness, to build up shattered bodies and minds, and to render men who have become unfit ready to go on with the business of killing and disabling. That is the urgent but passing phase of science and medicine to-day. Later there will come the joint effort of all who can claim expert equipment to make good the losses incurred and to draw the prophylactic lessons of the war. Then will be seen the practical progress which medicine has made, and then will those countries, the value of whose scientific work is admitted, but whose national aspirations and methods are hideous as well as ridiculous, see the necessity of taking part in the scientific parliaments of civilised peoples. When their desire is justified by their conduct we

may again in international congresses attain to Sir JAMES PAGET's ideal of such meetings and "forget our nationalities"; then medicine will be, as it should be, the first link in a chain of international community.

War and Taxation.

THE approaching introduction of a fresh Budget in the present circumstances has naturally produced a crop of suggestions for taxation as well as of forecasts of its incidence, the latter being more frequently based upon experience and probability than the former. Medical practitioners who have lost income, in common with other professional men in like plight, will have felt anxiety at the prospect of an increased income-tax to be assessed upon average earnings, into the calculation of which anti-war conditions still enter, and to be paid out of diminished resources. With regard to other forms of taxation any raising of the duty upon alcohol which may increase the price of drugs must always be a subject of direct interest to medical practitioners. They share with the rest of the public the constant hope that fresh subjects of taxation may be found, so that existing duties may not be increased. The worst feature of the suggestions made to a Chancellor of the Exchequer as a rule consists in the unimportance of the revenue which they are likely to produce with relation to the needs of the financial situation. This difficulty would probably affect such an excellent suggestion as that made in *Truth* that the stamp duty on "patent medicines" and articles classed with them should be largely increased. Whether "those who delight in drugging themselves would willingly pay a little more for the privilege" and whether their willingness would not only compensate for the falling off due to others being unable to pay the increased price, but would leave a sufficient profit to make the change worth his while, would presumably be the main question which a Chancellor of the Exchequer would consider. That those not able to pay such increased price would benefit in health and pocket would, unfortunately, be immaterial from his point of view.

The taxation of bachelors is another suggestion which has attracted attention in the newspapers, and which may have to be considered from a financial point of view when legislation to enforce it is considered. Its possibilities formed a subject of discussion at the recent conference of the Royal Sanitary Institute at Brighton, and were particularly considered in a paper read by Dr. DUNCAN FORBES. Apart from its possible effect in raising revenue this proposal is commended by its advocates because it is claimed that it would result in the driving of bachelors into matrimony and the begetting of children to supply the wastage of war. It is not proposed here to estimate the number of "eligible bachelors" financially able to marry and physically capable of responding to their country's call as potential parents, who may now be in the country or who will be when the war is over, but even with trustworthy statistics relating to these subjects it would be rash to count upon a substantial increase of the country's income from such a source. There are no means except pure speculation to inform us how far those who from selfishness do not marry would be impelled to do so in order to share their threatened revenues with a wife and possible family, or would prefer to retain freedom with diminished resources for its enjoyment. Dr. FORBES's proposal seems to have taken the form of a high income-tax for all, with an ample rebate for those supporting dependents. The remission, however, in favour of those supporting children would, we fear, have to be considerable in order to affect the birth-rate, and the present trifling rebate of income-tax in respect of the children of those with small incomes can hardly have had any effect which would guide our legislators. By the way, the proposals in the above direction have at present only been made in respect of male bachelors, the possible super-taxing of "bachelor women" with good incomes not being considered. And yet there are such, capable of contributing to their country's revenues more than they are at present asked to do, although whether the aggregate of their contributions could be made an important feature in a Chancellor of the Exchequer's estimates may be doubtful. Here again the possible effect of taxation in driving those subjected to it into matrimony and child-bearing would presumably be taken into account by those who would tax celibates in order to raise the birth-rate. Would the bachelor woman be anxious to marry in order to avoid taxation? We doubt this, but if she would, it would hardly be just to inflict the latter burden upon her without recognising a certain unfairness in the present custom of confining the proposal of marriage to the male sex. If the taxing of bachelors, male and female, would tend to remove an inequality of the sexes that many women resent, as well as to promote matrimony generally, it might secure a fair measure of support from women; but its advocates at the present juncture must bear in mind the point that we have suggested above.

A Chancellor of the Exchequer naturally and excusably looks upon new taxation from the point of view of the revenue reasonably certain to accrue from it. He is not likely to be lured into including in his Budget an item which may prove a financial failure, by the possibility that such failure may be associated with ultimate benefit to the kingdom through an increase of its population. We do not, however, set aside as merely speculative the proposal that those who have less expenses and responsibilities should make different contributions to the national exchequer than those of their more burdened fellow citizens. On the contrary, we can see considerable social advantages that might follow the innovation.

Annotations.

"Ne quid nimis.

THE DETERMINATION OF SEX.

THE problems of the determination of sex, the production and form of secondary sexual characters and sexual dimorphism still await solution. We have much information that may or may not bear as closely upon the problems as different investigators think, and some facts that are suggestive. Progress is, however, confidently expected. Three papers read at the meeting of the British Association approached these closely related subjects from different standpoints and illustrate the complexity of the subject and the difficulty of obtaining a comprehensive survey. Professor E. W. MacBride reviewed the Relation of the Chromosomes to Heredity and drew the conclusion from the equipotential influence of male and female on the characters of the offspring that the chromatin as a whole must be regarded as the bearer of hereditary tendencies, since the head of the spermatozoon consists essentially of chromatin. The manner in which the chromatin influences the characters of the offspring is more obscure, but there is a good deal of evidence to show that differentiation may be initiated by emission of chromatin particles into the cytoplasm, thus introducing differences between cells at first provided with like nuclei and indifferent cytoplasm. Whether the individual chromosomes are the bearers of different characters or groups of characters is more difficult to decide. The discussion mainly revolves round the significance of the so-called sex chromosome of insects, which is supposed to carry the determiner of sex and of the qualities which are sex-limited. In some cases the nucleus of female individuals contains one more chromosome than that of males, and there are two kinds of spermatozoa, one with the additional chromosome, the other without. In this case the sex is supposed to be fixed by the spermatozoon. When, however, two species are crossed, differing in a secondary sexual character, the distribution of this character in the hybrid and in the offspring of interbred hybrids, shows that it cannot possibly be carried by the sex chromosome. In other cases there are two kinds of eggs and one kind of spermatozoon, although a constant chromosomal difference cannot be demonstrated. Professor MacBride suggests that the sex chromosome may be a consequence of sex difference, rather than a cause. This may not necessarily be so in view of the very minute size of the sex chromosome in some cases and the great difficulty of observation. In conclusion, he inclines to the view that the chromosomes are groups of determiners, having regard to their relatively small numbers as compared with the number of transmissible characters, a view which has also been advocated by Strasburger and others. The paper by Mr. F. W. Ash sought to account for the form of the secondary sexual characters by regarding them as characters of abandoned function repressed in the young and the adult female by the more urgent nutritive demands of essential organs. The author rejected the selection and hormone hypotheses of the causation of secondary sexual characters as inadequate, but it would probably be more correct to regard these hypotheses as complementary to each other. The hormone hypothesis offers an explanation of the working of the biochemical mechanism without touching the form which the secondary sexual characters take. Selection seems a natural explanation of those cases where the female is less conspicuously marked, as in many birds. It is difficult to avoid the conclusion that the assumption of the male plumage by old females, as in the pheasant and domestic fowl, is in some way the result of the cessation of hormone inhibition. The problem is of interest to the pathologist and clinician also, as precocious development of secondary sexual characters is frequently associated with the presence of cortical adrenal tumours in man. The curious facts which have been elicited by a study of adrenal growths strongly suggest that the hormone mechanism is more complicated and not restricted to the endocrine function of the sexual glands alone. The third paper by Professor F. A. Dixey on the Bionomics of the Genus Eronia gave a striking example of the complexity of the problem as illustrated in the extreme sexual dimorphism of this group of butterflies.

PARALYSIS OF THE RIGHT PHRENIC NERVE.

Dr. D. Klinkert[1] has described the case of a woman, aged 59, complaining of weakness, hoarseness, pain in the right upper arm and neck, and increasing shortness of breath. On examination she was found to have paralysis of the left recurrent laryngeal nerve, which accounted for her hoarseness and slight inspiratory stridor; paralysis of the right sympathetic in the neck, shown by right enophthalmos, narrowing of the right palpebral fissure to 9 as compared with 11 mm. on the left, miosis, and increased warmth and colour in the right cheek; and paralysis of the right phrenic nerve. The latter was clearly shown by a skiagram, which displayed an abnormally high and paralytic diaphragm on the right, a low and actively moving diaphragmatic dome on the left. The respiratory movements of the right diaphragm were paradoxical, its dome ascending on inspiration and descending on expiration; Litten's sign, or inability to see the respiratory movements of the lower anterior edge of the lung shadowed in the appropriate intercostal spaces, was present on the right side also. Percussion, like the X ray examination, proved that the right lung did not expand on inspiration or contract on expiration in the normal way. Dr. Klinkert was unable, however, to establish by percussion the existence of the paradoxical or opposite movement of the affected lung in his patient. He notes that her right hypochondrium receded on inspiration. The heart was not displaced; the breath sounds were very weak on the right side, and so was vocal fremitus. These symptoms and signs were explained as follows. Three years previously the woman had had an operation for carcinoma of the left breast. The skiagram showed that both lungs were infiltrated with secondary carcinomatous masses surrounding the trachea at the upper opening of the thorax. Dr. Klinkert says that his patient showed a tender spot on pressure over the phrenic nerve above the scalenus anticus muscle and behind the innominate vein. She apparently did not exhibit one other sign sometimes met with in paralysis of the right phrenic nerve—namely, venous congestion of the liver from lack of the pumping action exerted on that organ by the normal activity of the right half diaphragm above it.

[1] Nederlandsch Tijdschrift voor Geneeskunde (Amsterdam), 1915, vol. ii., p. 804.

THE DEATH-RATE OF NORWEGIAN DOCTORS.

MEDICAL men in Norway die before their time, speaking generally. At the age of 30 their expectation of life is some ten years less than that of the average Norwegian man. Less than 8 per cent. of them pass the age of 80, while the corresponding figure for Norwegian males over 30 is nearly 25 per cent. These and other statements are set out in a recent article by Dr. I. Kobro,[1] and are based on statistics relating to 1015 Norwegian practitioners of medicine dying between the years 1800 and 1908. Of those dying before the age of 50, over a quarter succumbed to acute infectious disorders (excluding tuberculosis) that were no doubt picked up in the performance of their professional duties, and others died in consequence of the accidents of country practice. Among the older medical men malignant disease and apoplexy accounted for an unduly high percentage of deaths. Dr. Kobro points out that his figures deal with but a relatively small number of cases, and that the diagnoses of the causes of death are naturally not entirely to be trusted. His statistics are set out in tabular form, however, and it is plain that he has proved the relative shortness of the Norwegian doctors' lives.

THE OCCURRENCE OF CARRIERS OF DISEASE-PRODUCING PNEUMOCOCCUS.

IT is known that there exist in the mouths of normal persons as well as of patients suffering from pneumonia definite pneumococci. Dr. A. R. Dochez and Dr. O. T. Avery have shown that there are four definite types of pneumococcus; that three of these types are met with in patients suffering from pneumonia, and are together responsible for 75 per cent. of these cases, whilst the fourth type (Type IV.) is also met with but is only found in the remaining 25 per cent.; in these cases the disease is found to be usually less severe, and what is important is that this fourth type of pneumococcus is hardly distinguishable from that to be found in the healthy person's mouth. Since the highly virulent forms (Types I., II., and III.) are always associated with disease, and only occur in other conditions under circumstances to be immediately explained, the evidence is strong that in the spread of lobar pneumonia the disease is, in a majority of instances, transmitted from one individual to another. The same writers recently in the *Journal of Experimental Medicine* give evidence which strongly suggests that persons closely associated with individuals suffering from pneumonia in a large percentage of instances harbour in their mouths pneumococci of the same type as those causing the disease, that such organisms are not found in the mouths of normal individuals not exposed to pneumonia, and that the considerable period of time during which these organisms are carried may in part account for the sporadic occurrence of individual cases of pneumonia. An additional means of transmission is also afforded by the recovered individual. Thirty-two cases of pneumonia were studied. The organisms were observed in the case itself and compared with those, if present, found amongst the immediately surrounding nurses or relations. Amongst these associates it was found that there were 13, or 40·6 per cent., who harboured the pneumococcus (Types I. or II.) of the same type as that found in the patient. The average duration of this "carrying state" was 23 days, but the figure is probably too low. A series of 113 normal people were examined for the presence and type of pneumococcus. Pneumococcus was found in 58·4 per cent. Of these, however, only 9·6 per cent. were of the disease-producing Types I., II., and III., and significantly enough, all these cases were in individuals who had been closely associated with cases of lobar pneumonia. Compared to this type incidence in normal people, in cases of lobar pneumonia the highly pathogenic types were present in 77·2 per cent. This is strong evidence that specific types of pneumococci are mainly responsible for the production of lobar pneumonia. If these findings are generally confirmed it ought to open up a rational prophylaxis against this dread disease by suitable measures directed towards the patient and his attendants, these being potential carriers of the pathogenic pneumococci.

[1] Tidsskrift for den Norske Lægeforening, 1915, vol. xxxv., p. 873.

AN ELECTRIC INTERRUPTER FOR ALTERNATING CURRENT.

WHEN an alternating current is used to work a coil for the production of X rays, one of the chief problems that presents itself is the choice of an interrupter. The use of an alternating current is often obligatory owing to the fact that the distribution of electric energy in towns is effected by means of such a current, and small plants, if transportable, are not generally furnished with the complex dynamo motors necessary for the local transformation of the alternating current into a continuous one. The ideal solution of the problem has until now been found in the turbine interrupter worked by a synchronous motor which interrupts the current at the moment when it reaches its maximum intensity. Such interrupters are, however, somewhat costly, and their use and maintenance not very easy, so that it becomes necessary to have recourse to the electrolytic interrupter in spite of the difficulties that its use presents with the alternating current. Those who are interested in the practical aspect of the question will find a communication by Dr. G. C. Trabacchi in *Il Policlinico* (Practical Section, August 22nd, 1915) describing some improvements effected by him in the electrolytic interrupter. The essential defects of such instruments are principally two: (1) the platinum point becomes rapidly worn out from acting as cathode for half the time; and (2) during the semi-period in which it is cathode and which may be called the "inverse semi-period," interruptions occur, usually irregular, which, more than the closures taking place in the "effective semi-period," induce currents which are damaging to the tube by causing rapid metallisation and hardening. The first defect is usually obviated by substituting for the platinum point one of iron, which can be renewed from time to time at a small cost, while saline solution takes the place of sulphuric acid. To eliminate the second defect variously placed valves are put between the coil and the tube to absorb irregularly induced currents. There always remains, however, the difficulty of finding the conditions of good working according to the auto-induction of the coil and of the hardness of the tube employed. By using an aluminium instead

of an iron plate electrode and a 20 per cent. solution of either double tartrate of potash and soda or of bicarbonate of soda saturated, Dr. Trabacchi claims to have found an instrument which possesses all the advantages of the motor interrupter. To construct such an interrupter a glass cylinder is used having a capacity of about 6 litres, and into it are poured 5 litres of water in which is dissolved 1 kilogramme of double tartrate of potash and soda, or half a kilogramme of bicarbonate of soda. From an aluminium plate about half a millimetre thick a square about 10 cm. wide is cut, leaving a long thin strip at one side. When this plate is placed at the bottom of the receptacle the thin strip, being bent at right angles, comes above the fluid and serves as an electrode. To a slab of perforated wood which acts as a lid the insulating tube is fixed, from which emerges the point of iron or platinum of suitable length, which can be regulated when it is required to alter the resistance.

EPITHELIOMATA, X RAYS, AND RADIUM.

AT the recent annual meeting of the American Medical Association Dr. Robert Abbe, of New York, reported a number of cases showing that radium has considerable curative power in arresting epitheliomata due to the X rays—a somewhat paradoxical fact. He argued that if senile keratoses and early epitheliomata of the face and hands can be cured with certainty by radium, then the early X ray growths of the same type ought to yield equally well. In the advanced stage, when the downgrowth of cells invades and envelopes the squamous-cell layer, followed by growth of pearls, lymphatic invasion, and gland metastases, radium does not appear to be beneficial. Then anything short of amputation or excision is useless. But before this stage radium has given Dr. Abbe excellent results. He treated his first case in 1903. Five years after beginning the use of the X rays the patient developed a typical epithelioma of the back of the left hand. One application of radium cured it, and there has been no recurrence after 12 years. Three years ago a well-known maker of Roentgen ray tubes was seen for a terrible condition of X ray cancer of the chin, chest, and both hands. One finger had been amputated and useless operations done on the other parts. Both hands showed multiple epitheliomata of varying sizes and heights. There was a recurrence in the stump of the amputated finger with an enlarged epitrochlear gland of half the size of an egg, and in the axilla and subclavian region a conglomerate mass resembling a large clenched fist. Hopeless as the case seemed, the patient wished Dr. Abbe to excise the growths and apply radium at least for experiment. This he reluctantly did. A strong specimen of radium was applied from half an hour to one hour to each growth. In 30 days every one dried up and fell off, leaving a smooth, healthy, soft scar beneath. Even one with a half inch base and three-quarters of an inch height—cornified on top and very vascular at the base—was absolutely cured. The effect of buried radium in the operated field of the large axillary cancerous masses was, as expected, of no value. The patient lived some months and succumbed to the disease, though no recurrence of the epithelial growths took place. In another case one of the pioneers and an authority in X ray work came to Dr. Abbe two years ago with both hands covered with crusted skin, cracked and sore, compelling him to use gloves and cerates for comfort. During several years he had forestalled the dangerous second stage by excisions and skin-grafting of several parts. Considerable areas had been cauterised by nitric acid, leaving fairly smooth scars. Carbon dioxide snow and other agents, as numerous as the surgeons whom he consulted, had also been used. At last he was disheartened and refused to endure longer the pain of these methods, the worst of which he thought was freezing. Dr. Abbe recommended radium, and the patient pronounced the result better than that of any other method. A second application so far restored his hands that he decided to marry, which his condition and prospects had previously prevented him from considering. During the past two years he has four times used radium on a few lingering places. He wrote as follows: "The great advantage of the radium treatment, in my judgment, lies, first, in the fact that it may be applied to many situations which are not accessible to freezing, and second, in its relative freedom from pain. I have had about 350 or 400 areas treated by radium and about 60 areas treated by freezing. Many of these radium areas could not have been reached successfully by freezing, and because of the relative freedom from pain it has been possible to obtain truly wonderful results with far less discomfort than was experienced with the smaller amount of freezing treatment. These areas included both ulcers and keratoses, most of which could have been classed as precancerous." Ten medical practitioners whose hands Dr. Abbe treated have had good results. It is only a seeming paradox that radiation from a Roentgen tube will cause a lesion of the skin which radiation from a tube of radium will cure, as the output of the Roentgen ray tube is almost wholly composed of hard, penetrating rays, while radium discharges rays that have been proved to be curative.

ACCIDENTS FATAL AFTER A LONG INTERVAL.

AN inquest was held recently on the body of a miner who was injured on Jan. 27th, 1911. The injury was caused by a blow from a pit-prop, which bruised him on the left hip. He was off work for three weeks, but he was able to return to work for six weeks, and then again he was compelled to give up his work, and he received compensation to the day of his death, which occurred in August of this year. The coroner thought it advisable to hold an inquest as the death was considered to be due to the accident, even though the accident had occurred more than four and a half years previously. According to the medical evidence the accident had damaged the vertebral column, with the result that it had become attacked with tuberculous caries, which ultimately led to the man's death. Recently also an inquest was held on a man who died five years after a piece of mutton bone had passed into a bronchus, giving rise to the formation of abscesses in his lung. Cases such as these naturally raise the question whether it is legally or practically necessary to hold an inquest on every case in which an accident has occurred, and where there is a possibility of the death having been due to an accident, even though a long time has elapsed since the accident happened. Is there to be no period of limitation after which an inquest need not be held? It is not difficult to imagine a case in which a man might receive a severe injury, such as a fracture of a number of ribs, which would incapacitate him for active work, and many years after he

might die, and few surgeons would be willing to say that his death was in no way due to the long-preceding accident. Most surgeons know of such cases. Some of our soldiers who have returned wounded from the front will live for many years, and yet their wounds may undoubtedly have so injured them that they may not live as long as they otherwise would. Will the coroner consider it necessary to hold an inquiry as to the cause of death in such cases? This is evidently a *reductio ad absurdum*. Cases have been recorded in which caries of the spine has been attributed to an injury inflicted a dozen years or more before—the example given above of this possible sequence of events being by no means an isolated one. What good will an inquest do in such a case? The object of an inquest is to ascertain if the death was due to criminal, avoidable, or natural causes with a view to the detection and punishment of crime, the prevention of accidents, and the general security of life.[1] No practical result, so far as the prevention of accidents and the general security of life are concerned, can accrue from an inquiry taking place several years after the incident in question, and no charge of murder or manslaughter can be based upon a death occurring more than a year and a day after the incident alleged to have caused it. For these reasons, we believe, inquests are not held, as a rule, in such cases as those referred to above, and on the occasions on which they have been held they have been due to an erroneous conception of his duty on the part of the coroner. In other words, the death may, in fact, be traceable to injuries which would render it a violent or unnatural death if they had been inflicted within a year and a day; but the law, not altogether unreasonably, does not so regard it so far as the coroner is concerned. It is conceivable that civil litigation held in abeyance for several years might be based upon a death supervening at length upon accidental or other injuries, but the holding or not holding of an inquest should not affect it one way or the other.

FERMENTS IN THE URINE AND BLOOD OF NEPHRITICS.

EXTENSIVE researches have recently been undertaken on this subject by Dr. A. Lorenzini in the Pathological Laboratory at Florence,[2] and some definite results obtained by him are worth recording. He found that amylase was present in urine, whether normal or pathological, but in very small quantity, and could only be traced in urine recently passed. After 24 hours it had disappeared, either from the effect of temperature or following the action of some of the urinary constituents. In the blood serum of nephritics amylase was diminished, and markedly so in serious cases. Lipolytic power was constantly present in normal and pathological urines, but varying in normal specimens between 1·1 and 1·2, and was slightly lower than that of the serum. In the urine of nephritics it was diminished more in chronic than acute forms, and may therefore be regarded as an index of renal changes, since it is derived from the parenchyma itself. Hence a true albuminuria may be said to exist when diminution of lipase is associated with the presence of albumin. The lipolytic power of the blood serum in nephritics was above normal, but diminished towards a fatal termination. Pepsin existed in appreciable amounts in urine and varied at different times of the day, being least while fasting and increasing some hours after food. It was greatly in excess when the urine contained many white blood cells. In chronic nephritis it was scanty. The reducing power of the urine varied at different times of day, being greater during fasting than after taking food. In urine after 24 hours it was greater than when recently passed. In nephritics it was below normal, but their blood serum possessed greater reducing power than their urine. The antitryptic power of the blood serum in nephritis is greater than normal, but is diminished in severe nephritis. The urine, even when containing an appreciable quantity of albuminose, has no antitryptic power. Catalase was definitely present in the urine of acute nephritis, but not always in chronic forms, and afforded a good indication of renal changes. The serum contained more catalase than the urine, probably due to the fact that ordinary catalase is partly derived from the blood serum itself and passes through the unsound kidney in the same way that albumin does. The general conclusion to be drawn from these researches is that the ferments normally present in urine are diminished in nephritis, and especially in severe chronic forms. The same ferments are found in the blood of nephritics in greater quantity than in the urine, which is in favour of the theory that the ferments in the urine are partly derived from those in the blood.

[1] The King's Coroner, by R. Henslowe Wellington, vol. ii., p. 5.
[2] Il Policlinico, Medical Section, August 1st, 1915.

PARLIAMENT resumed its sittings on Tuesday last, when a debate took place upon the question of national military service. The official figures of casualties during the first year of the war were announced as follows:—

	Officers.	Other ranks.	Total.
Killed or died of wounds	4,965	70,992	75,957
Wounded	9,973	241,086	251,059
Missing	1,501	53,466	54,967
Totals ...	16,439	365,544	381,983

THE sixth Norman Kerr memorial lecture will be delivered before the Society for the Study of Inebriety by Sir William J. Collins, F.R.C.S., consulting surgeon to the London Temperance Hospital, on Tuesday, Oct. 12th, at 4 P.M., in the hall of the Medical Society of London, 11, Chandos-street, Cavendish-square, W. The subject taken is the Ethics and Law of Drug and Alcoholic Addiction.

MEMORIAL TO THE LATE DR. HUGH DEWAR.—A memorial to the late Dr. Hugh Dewar has been unveiled in the Public Gardens of Portobello, Edinburgh. The memorial is a granite drinking fountain 14 ft. high, and bears a medallion portrait with the following inscription:—"This fountain has been erected in remembrance of Dr. Hugh Dewar, Portobello, by his grateful patients and numerous friends, who deplore the loss in the prime of manhood of a kind friend and skilful and beloved physician. His quiet charity was known to the needy. 1866–1914."

DONATIONS AND BEQUESTS.—By the will of the late Sir Peter Eade, M.D., of Norwich, who left unsettled property of the gross value of £22,132, including personalty of the net value of £17,092, the testator bequeathed £1000 each to the Norfolk and Norwich Hospital and the Children's Convalescent Home, Great Yarmouth, and smaller legacies to two other Norwich medical charities. The residue of his property, after other bequests, will be equally divided between the Norfolk and Norwich Hospital and the Children's Convalescent Home, Great Yarmouth.

CHOLERA IN EUROPE.

THE fact that cholera is epidemic at the present time in certain parts of Europe excites little or no alarm in the public mind of this country, in spite of repeated references to the subject in the daily press. From information which we have obtained it appears that, since last September up to the present time, some 20,000 cases of cholera have been reported in the Austrian Empire, about a third of them proving fatal, and of these the largest proportion have occurred in Galicia and Bukowina, in the area in which military operations on a large scale are now being carried out. At first the disease made its appearance among the prisoners interned, but of late the majority of the cases have been recorded among the civil population. In the month of July of this year 6000 attacks occurred, mostly civilians, in the two above-named provinces. In Hungary more than 3000 cases have come under notice, principally among the military; and in Croatia-Slavonia about 1700 persons have been attacked. In Bosnia and Herzegovina there have been about 700 cases this year. The strain of infection, however, does not seem to be of a particularly virulent kind, and this lends confirmation to the opinion that Austria received the disease from Southern Russia, where of late years cholera has been prevalent in a mild form. Sick and wounded soldiers from the battlefields of Galicia carried the infection back with them to various other parts of the Austrian Empire, and groups of cases developed in Vienna, Budapest, and other large cities. In the same way cholera was brought by Russian prisoners into Germany, the first cases being reported in November of last year in the Berlin district. This year, in July, there was a marked increase in the number of cases in Germany, and in the last week of that month 215 attacks were recorded, 200 of them among interned prisoners and only 15 among the soldiers guarding them. Cholera has also appeared at Frankfort-on-Main and at various places in the provinces of Hesse-Nassau, Prussian Silesia, Posen, and Pomerania, as also in the kingdoms of Saxony and Würtemberg. As might have been expected from what we know of German methods, anticholera inoculation has been largely used to prctect the army fighting in the eastern war zone; the cases reported among the German soldiers being older men and those less fitted for active service, who were engaged in the less laborious task of guarding the prisoners' camps and who had not been inoculated. The anticholera inoculation no doubt accounts for the comparative absence of the disease from the German army in the field. This protective measure has also been employed by the Austrians, but probably less efficiently. In this connexion it is of interest to learn that, although the inoculation was ordered to be carried out in the Austrian force about to be led against the Serbians, the general in command alone, of all his staff, refused to submit to the operation, and it is reported that he was the only soldier of that force who had so far died from cholera. Little definite information has come to hand from Russia as to the incidence of cholera of late in that country, but the fact that Russian prisoners conveyed the disease to Austria and Germany is evidence that it, too, has suffered. It is known, however, that just before war broke out last year cholera was prevalent in the Russian government of Podolia, not far from the Austrian frontier, and also that cases had occurred in Warsaw. During the present year it has been officially announced that the disease was present during August in the district of Kherson, not far from the Black Sea, and also at Mariupol, on the Sea of Azov, as well as at Tiflis and other places in the Caucasus. As regards Turkey, we know that cholera was present during part of 1914 at Adrianople, Constantinople, and in the Dardanelles, at Gallipoli and Tschanak among the Turkish troops. At Smyrna, Trebizond, and other ports of Asia Minor cases were also reported last year, but there is no information available concerning the incidence of cholera in Turkey during 1915. Quite recently the disease has reached Italy, cases having occurred at Venice and Leghorn, probably due to infection from an Austrian source. So far as we know, there have been no reported cases of cholera in the war zone in Western Europe. Although under different circumstances the presence of epidemic cholera in Eastern Europe might have caused some uneasiness in this country, the present danger may be regarded as comparatively insignificant, for the ports of Northern Europe, such as Libau and Hamburg, at which poorer class travellers from Russia embark for England, are closed; and the same applies generally as regards Austrian and Turkish travellers, to the corresponding ports in the Mediterrean. The season, too, is getting late; for cholera infection brought to our shores late in the year has in the past failed to effect a lodgment. But in the event of any mild or unrecognised case evading the vigilance of our port sanitary authorities we may safely continue to rely upon the efficiency of our internal sanitary administration to extinguish any spark of infection that may by chance enter the country.

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

THE WEEK'S SUBSCRIPTIONS.

THE subscriptions to the Belgian Doctors' and Pharmacists' Relief Fund received during the week have been as follows:—

	£	s.	d.
North of England Branch of Fund (per Dr. Jas. Don and Mr. A. S. Perceval, Hon. Secs.) (twentieth donation, total £773 7s. 6d.)—			
Dr. Arnison	3	3	0
Dr. Barrs, collected by—			
Dr. Telling	3	3	0
Salisbury Division, B.M.A. (per Dr. L. S. Luckham) (third donation, total £18 10s 7d.)—			
Dr. Westrup	0	5	0
Mr. R. B. Betty	0	10	6
Mr. J. W. Catford	0	5	0

Subscriptions to the Fund should be sent to the treasurer of the Fund, Dr. H. A. Des Vœux, at 14, Buckingham-gate, London, S.W., and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Ltd.

THE APPEAL FOR SURGICAL INSTRUMENTS.

The Master of the Society of Apothecaries begs to acknowledge the receipt of surgical instruments kindly contributed by the following donors since the publication of the last list:—

Dr. G. T. Schofield, Widnes; Dr. Major Greenwood, Hackney-road, N.E.; Lady Horne Drummond, per Dr. Dods Brown, Perth; The Canadian Red Cross Society, per Lieutenant-Colonel Hodgetts, Canadian Red Cross Commissioner.

Instruments should be sent to the Apothecaries' Hall, Blackfriars, E.C.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

MEETING AT MANCHESTER.

THE eighty-fifth annual meeting of the British Association was held in Manchester from Sept. 6th to 11th. The headquarters were at the University, where most of the sectional meetings were held. The 12 sections were: Mathematical and Physical Science, Chemistry, Geology, Zoology, Geography, Economic Science and Statistics, Engineering, Anthropology, Physiology, Botany, Educational Science, and Agriculture. In spite of the exceptional circumstances this year, the attendance of members fully reached the best expectations, over 1400 being present during the week.

The meeting was opened by the able address delivered in the Free Trade Hall on Tuesday evening, Sept. 7th, by Professor ARTHUR SCHUSTER on the Common Aims of Science and Humanity, which was reported in THE LANCET of Sept. 11th. Previous to the address a loyal resolution to the King was carried, and the retiring President, Professor BATESON, introduced the President-elect.

At a meeting of the General Committee it was decided that the next meeting of the Association, to be held at Newcastle-on-Tyne, shall be presided over by Sir Arthur Evans, the distinguished ethnologist and archæologist.

We notice a selection of the communications having a more or less intimate connexion with medicine.

SECTION OF PHYSIOLOGY.

On Wednesday, Sept. 8th, Professor W. M. BAYLISS delivered the opening address on

The Physiological Importance of Phase Boundaries.

A consideration of the arrangements present in living cells shows that the physical and chemical systems concerned operate under conditions very different from those reactions taking place between substances in true solution. The cell system, in other words, is one of many phases. Whilst parts of this system appear homogeneous yet they may be heterogeneous, and are in what is known as the colloidal state. Considering one phase only, the molecules at a surface are exposed at one side to the influence of similar molecules, but on another to the influence of molecules of a nature chemically unlike their own, and such phase boundaries are the seat of various forms of energy. Surface tension is the most obvious form. In relation to the contractile force of muscle it is found that surface tension decreases with rise of temperature, a fact which is not surprising when we remember that the interface between a liquid and its vapour disappears when the temperature rises to the critical point. It is significant to note this close association between surface tension and the contractile stress, for it is found that this property alone of muscle has a similar negative temperature coefficient; and within the limits of temperature between which the muscle can be regarded as normal, the contractile stress is greater the lower the temperature; and the same holds good for the heat developed during the contractile stage. It is familiar, too, that tonus of smooth muscle increases with fall of temperature. Other facts probably explainable by these facts about surface tension have relation to the heart muscle, for all the phenomena connected with the output of blood by the heart can be satisfactorily explained by the hypothesis that the energy of the contraction is regulated by the length of the ventricular fibres during the period of development of the contractile stress. Surface tension, or phase boundaries, must necessarily be intimately related to the cell substances and molecular constitution. The phenomena of adsorption, electrolytic and chemical changes were also touched upon in this address. Certain aspects of enzyme action, too, are suggestively explained by these views. On the whole, it was said, we may conclude that more study of the phenomena at phase boundaries will throw light on many problems still obscure. It would probably not be going too far to say that the peculiarities of the phenomena called vital are due to the fact that they are manifestations of interchange of energy between the phases of heterogeneous systems. Life is incessant change or transfer of energy, and a system in statical equilibrium is dead.

Effects of Removal of the Post-central Gyrus in Chimpanzee.

Dr. J. J. GRAHAM BROWN (Manchester) illustrated by the lantern the effects observed in a chimpanzee after operative removal of first the right, and then the left, post-central gyrus, and lastly, the right motor area. Paralysis lasted for six days, but within 14 days the animal's actions had become apparently again normal, and it could, with much ingenuity, execute even the fine movements associated with the opening of a door with a key. Such operations, therefore, had not caused loss of power for fine movement.

Effects of Thyroidectomy and Thyroid-feeding on the Adrenin Content of the Suprarenals.

Professor P. T. HERRING (St. Andrews) read a paper on this subject. The thyroidectomised cat gave suprarenal content which had little action; in the thyroid-fed, however, the content was relatively active. Much significance attaches to the manner of collecting the gland substance as also to the emotional state of the animal, since operative procedure itself alters the quantity, and excitement of any kind acts similarly. For testing the effect of the adrenin the glands were rapidly removed, minced, Ringer's solution added, and filtered whilst still hot. 2 c.c. of this fluid were injected into the circulation of an animal and the effect on the blood pressure noted. Folin's method also was used as a test. Testing by gland weight relative to body weight showed little change in the cat. Rabbits were tried in a similar way. In this animal no effect followed thyroidectomy. This operation seemed to have little effect on the adrenin content, but in the thyroid-fed animal there was a more noticeable increase in the gland content. In these general results the possible influence of the posterior lobe of the pituitary gland must be borne in mind.

The Electrocardiograph and Auricular Fibrillation.

Dr. C. E. LEA (Manchester), after illustrating with the lantern various curves gained by electrical methods, recorded their value as a means of diagnosis in a particular case. This was one of ordinary auricular fibrillation in a woman who had been under observation for over two years. All this time the pulse had been characteristically irregular, but could be readily controlled in rate by digitalis. Electrical curves verified the diagnosis previously made. On one occasion, however, though the pulse was just as irregular as ever, the electrical curves showed that the auricles had resumed activity and were for the time not in fibrillation, though the rhythm was still markedly irregular. The patient was taking pilocarpine at the time. On no other occasion before or since this observation was a similar resumption of auricular activity shown. This case illustrates the fact that even though the pulse-rate and rhythm may show no apparent change, yet the auricles may resume their normal action, and possibly fibrillation is not so permanent and persistent as is commonly believed. Great variations in vagal tone can be demonstrated in these cases, and the question of vagotonia offers a fruitful field of investigation.

The Pathology of Diabetic Coma.

Dr. E. P. POULTON (London) recorded observations to show that the cause of diabetic coma is not essentially due to an acid quality of the blood, is not, in fact, a true acidosis. The blood in uræmia, for example, is more acid than is that of diabetes, as is also the blood during moderate exercise. What the actual poison in coma is is not known. In this condition, however, there is a definite lowering in value of the alveolar CO_2, and this condition itself can induce symptoms similar to those of coma. The estimation of the alveolar CO_2 forms a reliable guide to the onset of coma, and the latter can, with some definiteness, be predicted in this way.

The Physics of Phagocytosis.

Dr. J. TAIT (Edinburgh), speaking on this subject, observed that when one studied the behaviour of invertebrate blood-cells which have been removed from the vessels and placed on a slide, one noted that many of them

flow outwards upon the glass surface so as to be reduced to a very thin and greatly expanded sheet. The fact that the movement is progressive and irreversible, and the further fact that on a greasy surface the same cells undergo no deformation suggested that the expansive force is a capillary phenomenon, the cell substance spreading in the same way as a drop of water spreads on a clean surface of stone or glass. For cells which are thus unstable on a non-greasy surface of foreign material the author suggests the name "thigmocytes." Simple physical reasoning shows (1) if a fluid is unstable on a slab of a given substance it will flow around or ingest a small particle of that substance; (2) if it refuses to ingest a particle of any given substance it will be stable on a slab of that substance. Experiments on thigmocytes show that they conform to both these results. The phenomenon of phagocytosis in the case of these cells at least appears to be physical. Thigmocytes are non-amœboid; consequently power of amœboid movement is not essential for phagocytosis. Many phagocytic cells —e.g., mammalian polymorphonuclears—are stable on non-greasy foreign bodies, and yet ingest non-greasy particles. It was shown, however, that on physical grounds stability of the cell on a slab of a given material is quite consistent with ingestion of a particle of that material. In other words, there is no *a priori* evidence against the extension to stable (amœboid) leucocytes of the physical hypothesis regarding phagocytosis. Following out similar principles to these new light may be thrown on a number of problems such as the mechanism of amœboid movement, the relation between opsonins and agglutinins, emigration of leucocytes, amitotic cell division, and blood coagulation.

These represent a few of many interesting papers given before this section.

SUBSECTION OF PSYCHOLOGY.

Some interesting papers were provided, and the recent legislation in connexion with feeble-mindedness has stimulated observation in this important work. The family histories of 50 mentally defective children were studied by Miss AGNES KELLEY. The greater number of the fathers were casuals and hawkers. In only about half a dozen could the home conditions be described as good. Insanity was present in the family histories of 15 of the children. Other cases of mental deficiency were found in 30 of the histories; epilepsy in 9. In a large proportion of cases the parents were such heavy drinkers that the mental defect was probably intensified. Throughout the whole of the pedigrees it was noticeable that both physically and mentally the general standard was below par.

A visit was paid by many members to the Homes for Feeble-minded at Sandlebridge organised by the Incorporated Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded. The institution had its origin in 1898, the outcome of a scheme formulated by Miss Dendy and the late Dr. Henry Ashby. Children under and over 16 years of age are admitted, and there are now 267 inmates of both sexes. Under 16 day-school work is the chief occupation; over 16 the boys work on the farms and the girls help in the laundry, &c. The practical lessons learned at this institution certainly facilitated the passing of the Mental Deficiency Act of 1913.

Closely bound up with this work is that directed to the study of the child mind. Dr. Kimmins has examined the special interests of children in the war at different ages. He finds a distinct bellicose attitude in the girls of 10, depression at 11, and normal interests at 12. Boys are more warlike at 11 and show less of the depression noted in girls. It is remarked how mature the ideas on such a subject as the war are at the age of 13, especially in girls, who are in this respect at least a year ahead of the boys.

SECTION OF ECONOMIC SCIENCE.

Fatigue from the Economic Standpoint.

An interim report on this subject was presented before the Section of Economic Science. It was found that in particular branches of work, apart from the actions involved, certain affections or moods were induced in the worker which if long continued led to general fatigue. The work may be characterised by great or little complexity, uniformity, frequency, or regularity. Monotony seems to be caused by a combination of great uniformity and frequency; worry by complexity with frequency and little regularity; care by great frequency and little uniformity; and a driven feeling by great frequency and regularity of recurrence. Different forms of work predispose to one or other of these main conditions. Ventilation, humidity, and temperature have definite effects and show that a man is much less efficient in a warm moist atmosphere. It certainly looks as if there were a close relationship between temperature and work, but, curiously enough, the relationship is the reverse of what many would suspect. Low temperature seems much more harmful and high temperature less harmful than is commonly supposed. It requires extreme summers, such as are experienced only once or twice in a century, to produce effects as harmful as those of an ordinary winter. The tests of fatigue can be indicated by effect on output of work and on the accident-rate during work. Many factors render the latter test difficult to apply, but some striking figures were offered as to the effect on output of work with shortened hours. At the Carl Zeiss works at Jena the working day was reduced from nine to eight hours. It was found that the men earned by piecework on an average about 3 per cent. more and were unconscious of any special effort. Such increased efficiency is said to be physiological rather than psychological. Whilst fatigue causes lessening of output rate, increased accident rate is rather due to lessened nervous activity in attention, sensitivity, and speed of reaction. Studies of this character are of obvious importance at the present time.

SECTION OF ZOOLOGY.

The Evolution of the Cell.

Professor E. A. MINCHIN dealt with this subject in his opening address to this section. The earliest, most elementary, and yet complete form of cell is not the metazoa, to which most attention has been directed and which has been regarded as the primordial unit, but rather the protista. These forms constitute vast assemblages of living beings, invisible with few exceptions to the unassisted human vision and in some cases minute beyond the range of the most powerful microscopes. Some of these forms, however, are of importance as invaders of the body of man and the causers of diseases often of a deadly nature. Generally the individual does not reach a higher organisation than a single cell. It is now impossible to regard any longer the cell as seen in the metazoa as the starting point of organic evolution. The study is yet in its infancy. Though a cell in its simplest elements consists of a surrounding zone of protoplasm and a central nucleus, this arrangement is itself a stage in evolution, and in the earlier forms there is no reason to suppose that the chromatin which constitutes the essential element of the nucleus was limited morphologically to a central position, but might be distributed throughout the cell form. Since there is no proof that cytoplasm and chromatin arose from a common origin one or other must have evolved from the other, and the view is offered that it was the cytoplasm which arose from the chromatin which, in the first place, need not necessarily have had a limited position. After the theories of Haeckel and Mereschkowsky were discussed, Professor Minchin suggested the following idea as to what the earliest type of living being was like. They were minute, possibly ultra-microscopic particles which were of the nature of chromatin. They were free-living and capable of building up their living bodies by synthesis of simple chemical compounds. The nearest approach to any such type seems to be furnished by the organisms known collectively as chlamydozoa. From this type evolution proceeded in two main directions. One continued to specialise in the vegetative mode of life, whilst the other assumed a predatory existence. In the vegetative form the body became surrounded by a rigid envelope and a bacterial type of organism arose, a minute globule of chromatin surrounded by this envelope. In the predatory type the chief modifying event was the formation of a surrounding protoplasm or periplasm. Such an extension was distinct from the original chromatinic substance. Compared to the vegetative form, these organisms developed a larger size and reached what may be called the cytodal stage. It was at this time, too, that the chromatin became organised into a definite nucleus, the protocyte stage. Later modifications especially involved the cytoplasm and the simpler movements and functions became elaborated in the many ways with which we are familiar. The story is

interesting, and many of the ideas must modify the views of the earlier cytologists if they come to be further substantiated. The problem of the evolution of karyokinesis also received attention from this new aspect.

Many other subjects of indirect interest to medicine were amply discussed, such as the problem of smoke abatement, the education of women and the forms of work for which they may most suitably be employed, whilst in the Anthropological Section the discussions on racial problems and Egyptian evidences attracted large audiences. Three papers were read bearing on the determination of sex, which are noticed separately in an annotation.

The usual social events which lend an additional attraction to these Association meetings were, on account of the war, strictly curtailed, but a large attendance was noted at the soirée given by the Lord Mayor at the Technical Schools, and full facilities were offered to members to see the various works and places of interest in and about the city.

THE NATIONAL INSURANCE ACT.

Somerset County Insurance Committee.

AT a recent meeting of the Insurance Committee for Somerset the figures quoted for sanatorium benefit and its results showed that the number of patients to be treated had not been high and that satisfactory results had been obtained. Out of 115 cases treated in sanatoriums during 1913 64 were now working full time, 3 were working occasionally, 15 were not working, 19 were dead, and 14 had been lost sight of. In 1914 336 persons had been sent to sanatoriums out of a total of 886 receiving treatment of various kinds. Details were given of satisfactory arrangements made between the county council and the insurance committee for the apportioning of the necessary expenses of treatment for tuberculosis between these two bodies. The report of the finance subcommittee upon the earnings of medical men serving on the panels showed that one received between £1100 and £1200 per annum, one between £900 and £1000, and two between £800 and £900. Besides these less than 40 made over £300 a year, whereas 50 made between £200 and £300, and 105 less than £100.

Cambridgeshire and a Tuberculosis Officer.

At a recent meeting of the Cambridgeshire County Council a long discussion took place upon the question of converting the tuberculosis officer already employed jointly by the council and the Insurance Committee (and paid for in equal shares by these bodies and by Government grant) from a part-time to a whole-time officer. The proposed change involved the question of £200 a year for additional salary, which it was moved should be borne in equal shares as above. An amendment, however, was proposed and was ultimately carried, by which the county council declined to bear any share of the extra £200, on the ground that the Insurance Committee would have the advantage of the extra work to be done under the new arrangement. This, under the amendment, would only be carried out if the Insurance Committee and the Treasury consented to bear the cost. Dr. J. H. C. Dalton, in comment after the carrying of the amendment, observed that he did not consider that it mattered whether the motion as amended was carried or not. The Insurance Committee ought not to be asked to carrry it into effect.

Action against a Medical Man on the Panel.

In the Leicester county court recently an action was brought against a medical man by a young woman working in a hosiery factory to recover the amount of a fee paid to another medical man. The second medical man had attended the plaintiff when, according to her allegation, the defendant ought to have done so. The story is interesting as showing the difficulties of panel practice. The plaintiff having eaten some pork at dinner was seized with abdominal pains and the defendant was sent for, but at the time when his surgery, which was within two minutes' walk of the plaintiff's home, was open and was filled with patients. Both the father and mother of the plaintiff went to the surgery, and the former adopted a very insulting tone towards the defendant, who, however, attended as soon as he could, having regard to other claims on him. The plaintiff's parents not being satisfied sent for a second doctor who attended three or four times, and who on being called as a witness for the plaintiff said in cross-examination that he agreed that the panel practitioner had not been unreasonably long in going to attend the plaintiff, and that during the period for which he was under contract to keep his surgery open he would not have been justified in leaving it. After the defendant had given his version of what occurred, judgment was given in his favour with costs, his solicitor pointing out that the whole matter had already been investigated by the Insurance Committee who had dismissed the young woman's complaint.

Northumberland Insurance Committee.

At a meeting of the Northumberland Insurance Committee a recommendation was made by the Sanatorium Benefit Subcommittee that medical men should be asked, through the Panel Committee, to observe that until insured persons suffering from tuberculosis apply for sanatorium benefit the drugs supplied to them are charged to the Medical Benefit Fund and not to the Sanatorium Benefit Fund. It was requested, therefore, that medical men should report cases of tuberculosis as soon as possible in order that their patients might be induced to apply for sanatorium benefit.

ASYLUM REPORTS.

Belfast District Lunatic Asylum (Annual Report for the Year 1914).—The total number of cases under treatment during the year was 1452, the average daily number resident being 1248. The admissions amounted to 220, as compared with 276 the preceding year. Dr. W. Graham, the medical superintendent, comments on this notable decrease, and discusses the question of the relation of mental disease to war. He concludes that, although a great temporary increase in mental disorder, due to actual physical injuries and concussion, is to be expected, yet one of the eventual results of this war will be a great decrease in the amount of mental instability, because the people, partly by choice and partly by necessity, will return to the virtues of a simpler life. There were 98 discharges, with a recovery rate, calculated on the total number of admissions, of 34 per cent. The deaths numbered 95, making a proportion of 7·6 per cent. on the total number resident. Ten patients died within a month of admission.

Joint Counties Mental Hospital, Carmarthen (Annual Report for the Year 1914).—The total number of cases under treatment during the year was 833, the average daily number resident being 724. The total number of admissions was 109, showing a decrease of 15 as compared with the previous year. The direct admissions numbered 103, and of these 60 were first-attack cases, of which 26 were admitted within three months of the stated time of onset of the mental disorder, and were therefore as a rule of a suitable character for treatment. The form of mental disorder was of an incurable type in 24 cases and of a recurrent nature in 34. Cases of excitement exceeded those of depression in the proportion of 8 to 5. A history of hereditary insanity or allied disorders was ascertained in 21 per cent. of the total admissions—a much smaller proportion than usual. Alcoholism was the exciting or predisposing cause in 14 cases, a decrease of 11 as compared with the previous year's returns. The discharges numbered 51, the proportion of recoveries to direct admissions being 36·89 per cent. There were 62 deaths, making a death-rate of 8·56 per cent. of the average daily number resident. Tuberculosis was the cause of death in 12 instances, showing an increase of 1 as compared with the previous year. The prevalence of this disease was not surprising in view of the overcrowded state of the institution.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned have been entered as temporary Surgeons in His Majesty's Fleet:—Dated Sept. 3rd: Thomas John Nicholl. Dated Sept. 8th: Charles Leonard Gimblett.

The following appointments have been notified:—Staff-Surgeons: J. H. L. Page to the *Victory*; A. R. Schofield to the *Pembroke*; and J. McA. Holmes to the *Vivid*, all additional. Temporary Surgeons: M. B. MacLeod to the *Hercules*; F. C. Gladstone to the *Centurion*; A. L. Blunt to the *Achilles*; W. S. O'Loughlin to the *Dominion*; J. P. Johnson to the *Diamond*; C. L. Gimblett to the *Victory*, additional, for Portland Hospital; and D. L. Lewis and T. J. Nicholl both to the *Victory*, additional, for Haslar Hospital.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Probationer: J. T. Johnston to the *Manly*.

ARMY MEDICAL SERVICE.

Andrew Fullerton to be temporary Colonel (dated Sept. 1st).

ROYAL ARMY MEDICAL CORPS.

The appointment to a temporary Lieutenancy of John E. L. A. Turnly is antedated to May 11th, and that of John S. Webster to May 14th.

William Perceval Gore Graham to be temporary Lieutenant-Colonel (dated Sept. 4th).

The undermentioned to be temporary Majors (dated Sept. 1st): Hamilton Clelland Marr and Francis Martin Rouse Walshe.

Temporary Captain Harold Wiltshire relinquishes his commission (dated August 15th).

Captain John Francis Bourke, from The Cameronians (Scottish Rifles), to be temporary Captain (dated August 22nd).

The undermentioned temporary Lieutenants relinquish their commissions:—Dated Oct. 17th, 1914: Harold McAllum. Dated August 13th: Norman F. Hallows, George H. Varley, Rex Stansfeld, Alan D. Anderson, Aubrey D. Vernon-Taylor, Algernon C. S. Smith, David L. Lewis, William A. Stewart, and Herbert W. Cooke. Dated August 14th: Horace F. W. Warden and John Hewat. Dated August 15th: Dumaresq Le Bas, David Morrow, Henry D. Gasteen, Raymond B. Taylor, James J. Woodburn, Andrew D. Carberry, Hugh P. Costobadie, Sidney T. Davies, Harold B. Whitehouse, Edward E. Steele, and Arthur N. Hodges. Dated August 16th: Richard D. Passey, Henry L. Martyn, and Harold E. Battle. Dated August 17th: James A. Raeburn, Alister F. Cowan, and Arthur Turnbull. Dated August 22nd: Gideon R. E. Colquhoun, Durie A. Chamberlain, Thomas Gilchrist, Douglas McAlpine, Issachar R. Smith, Thomas S. Stafford, Michael J. Cronin, Cresswell L. Pattison, and John M. Wilson.

The undermentioned to be temporary Lieutenants:—Dated July 10th: James Mitchell Whyte, Alexander Frew, Francis C. Drew, John Michael Verster, and Ernest France Watson. Dated July 16th: Lieutenant Norman Burke Taylor, Canadian Army Medical Corps. Dated July 24th: James Mary Joseph Allen Levines and Ernest Louis Marsh. Dated July 25th: Charles Gerald Harmer. Dated July 28th: Frederick Arthur Martin Flegg, Frederick Wyndham Chamberlain, Melville Krolik, Owen Douglas Price, John Pritchard, Thomas Lindsay Clark, William Noel Child, Donald Ewart Morley, John Rodger, Charles Augustus Eamonson Ring, Thomas Morton Johnston Stewart, William Graham Scott, Frederick Naylor Stewart, Harold Hope Scott, William Turner, Maurice Exell Willcock, and John Hemphill Rutter. Dated July 29th: George William Elder, John Pearce Whetter, Murdo McKenzie McRae, and Austin Harvey Huycke. Dated July 30th: Walter Weir Galbraith, Frederick Alexander Anderson, Reginald Anson Mansell, James MacCormac Caldwell Johnston, Robert Stewart Ross, and Gerald Struan Marshall. Dated July 31st: John James Mackintosh, Diederick Johannes Dauth, James Frederick Matheson, George Elphinstone Keith, Ralph Cox, Edward Melville Bruce Payne, John Carr Robertson, Charles Lyle Sproule, Charles Kidd, and Joseph Dunlop. Dated August 8th: McWilliams Henry. Dated August 9th: George Stewart Clark, William Allan Young, Francis George Cross, John Reid, Charles Dickson, Harry Stokes, William John Gibson, John Walker, Edward Mountjoy Pearse, Robert Wilson, Hamilton Brown Lord Henderson, George Charles Gaynor, Josiah Rowland Benjamin Dobson, Thomas Herrick Sarsfield, Douglas James Glen, and George Joughin. Dated August 10th: Lionel John Lock, Philip Rutherford Boswell, Alexander Urquhart Webster, Charles Renfric Chichester, Frederick Reginald Sturridge, Joseph Paterson Lusk, Harold Reginald Wessen Husbands, Blacker Castles Powell, William Rickard Lloyd Waters, Herdman Porter, Frank Percival Montgomery, Robert Boyd Robson, and Lorimer Gifford Nash. Dated August 11th: Robert Hugh Russell McKean, John Inman Langley, Noel Archibald Scott, and John Vincent Bates. Dated August 12th: Bertram Chiene Letts, Joseph Vincent Duffy, James Patrick O'Hea, Arthur Walton Rowe, James Alexander Cowie, Frederick Vaudry Cant, Russell Walbancke Hodgson-Jones, James Hepburn, Harold Pringle, Charles William Sanderson Davies-Jones, Robert Arthur Welsford Proctor, and William John Hogg. Dated August 13th: Edward Leonard Taylor, James L. Wilson, and Charles James Stanley. Dated August 14th: Harry Seymour Laird, Eric Biddle, Vernon Edmund Lloyd, Robert Ferguson Copland, Carmel Samut, Joseph Morgan Richey, Stanley Ernest York Elliott, Arthur Willatt, John Tolmie MacKenzie, William Waddell, James Lawson Russell, Arthur George Troup, Robert Marshall Hume, Charles Patrick Kelly, Kenneth Noel Purkis, William Irving, Edmund Benjamin Jones, Joseph Walker, Patrick George Milne, and William Campbell. Dated August 15th: Arthur George Mossop. Dated August 16th: John Colley Pounden Beatty, Thomas Jackson Gilmore, Arthur Frederick Cole, Frederick Otto Stohr, Maurice Smith Bryce, Lionel Eugene Sutcliffe, Dennis Cregan McCabe-Dallas, and Morris John Theodore Wallis. Dated August 17th: Herbert Wales and William Forsyth. Dated August 18th: Fritz Salo Eschwege, John Beattie McFarland, Charles Reginald Hoskyn, William George Theaker Story, Richard Athelstane Parker Hill, Robert Henry Wilson, Terence Patrick McQuaid, John Campbell, Colin Campbell Blair Gilmour, Andrew Gibson, George Francis Palmer Heathcote, James Alphonsus Conway, William Cullen, David Macquorn-Rankine Crighton, Thomas Scott Brodie, Patrick Joseph Lane, Ewan Gordon Carmeron, and Robert Fenwick Linton.

The undermentioned to be granted temporary rank whilst employed with the Huddersfield War Hospital:—Lieutenant-Colonel: William Lawrence Wright Marshall (dated Sept. 1st). Major: Ernest George Coward (dated Sept. 1st).

Lieutenant J. M. W. Morison relinquishes his temporary honorary commission on ceasing to be employed with No. 6 British Red Cross (Liverpool Merchants' Mobile) Hospital (dated August 31st).

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants to be Captains: William J. Reid, Ronald W. Duncan, William L. E. Reynolds, Frank C. Harrison, William K. Campbell, Charles M. G. Campbell, Owen G. Parry Jones, Eris S. Mawe, William B. Jepson, Edward W. Mann, Thomas D. Inch, Gerald F. V. Leary, Sidney W. Lund, Noel H. W. Saw, Henry R. Sheppard, Donald C. Macdonald, and William T. Hare.

Herbert Troughton Chatfield and Cadet Alexander Louis Cameron Mackenzie, from the Aberdeen University Contingent, Officers Training Corps, to be Lieutenants (on probation).

The undermentioned Lieutenants (on probation) are confirmed in their rank:—John M. Watt, Robert L. Impey, Peter W. Edwards, Thomas F. Corkhill, Arthur McM. Paterson, Roderic D. Cameron, Walter B. Foley, Thomas Y. Barkley, and James McKay.

TERRITORIAL FORCE.

Army Medical Services.

Major Edward H. Myddelton-Gavey, from the Territorial Force Reserve, to be Deputy Assistant Director of Medical Services.

Royal Army Medical Corps.

London General Hospital: The undermentioned Lieutenants to be Captains, and to remain seconded: John St. A. Titmas, Harry A. Lucas, John B. Rawlins, and Philip W. Green. Lieutenant Cecil R. Harrison to be Captain. The undermentioned Lieutenants, from London Casualty Clearing Station, to be Lieutenants: Andrew T. Swan and Charles H. J. Fagan.

East Anglian Field Ambulance: Lieutenant William R. M. Turtle to be Captain.

Highland Field Ambulance: Captain George Dick, from the Sanitary Service, to be Captain.

Home Counties Field Ambulance: Major Hector G. G. Mackenzie to be temporary Lieutenant-Colonel. Captain William D. Sturrock to be temporary Major. The undermentioned Lieutenants to be Captains: Frederic E. H. Keogh and John F. Molyneux.

North Midland Field Ambulance: Joshua Buchanan McLean to be Lieutenant.

South Midland Field Ambulance: Captain Frederic E. France, from Attached to Units other than Medical Units, to be Captain. Henry Neville Crowe and William James Forsyth Craig to be Lieutenants.

Northumbrian Field Ambulance: Major Edward Turton to be temporary Lieutenant-Colonel. Captain Francis R. Eddison, from Attached to Units other than Medical Units, to be Captain. John Austin Leo Magee (late Second Lieutenant, Service Battalion, The Durham Light Infantry) to be Lieutenant.

London (City of London) Field Ambulance: The undermentioned Lieutenants to be Captains: Eric G. Gauntlett and Eric Donaldson. Captain Edward P. Minett, from the Territorial Force Reserve, to be Captain.

West Riding Field Ambulance: The undermentioned Lieutenants to be Captains: Edwin S. G. Fowler and Craufurd T. Matthews.

Scottish General Hospital: The undermentioned officers are seconded:—Lieutenant-Colonel Charles W. Cathcart, Lieutenant-Colonel Sir Robert W. Philip, Major David Wallace, C.M.G., Major Francis D. Boyd, C.M.G., Captain Alexander Miles, Captain John W. Dowden, Captain Archibald A. S. Skirving, C.M.G., Captain James G. Cattanach, Captain John Eason, Captain John W. Simpson, and Captain Edwin Matthew. Captain Hugh Walker, from list of officers available on mobilisation, to be Major on the permanent personnel.

Sanitary Service: The undermentioned officers relinquish their commissions: Lieutenant-Colonel Robert S. Gibb, Lieutenant-Colonel William G. Stevens, Major William Bruce, Major John C. McVail, Captain Henry W. Beach, Captain James A. Cameron, Captain David Havard, Captain George F. McCleary, and Captain Thomas Rogerson. Major George Reid resigns his commission on account of ill-health.

Wessex Field Ambulance: Lieutenant Alfred J. H. Iles to be Captain. Lieutenant George D. Perry resigns his commission on account of ill-health.

Northern General Hospital: Lieutenant-Colonel George H. Grimoldby resigns his commission on account of ill-health. Herbert Grantham Dodd to be Lieutenant.

London (City of London) Sanitary Company: Percival Hartley to be Lieutenant.

Home Counties Casualty Clearing Station: William Maskelyne Parham (late Surgeon-Captain, 1st Volunteer Battalion, Princess Charlotte of Wales's (Royal Berkshire Regiment)) to be Captain.

Lowland Field Ambulance: The undermentioned Lieutenants to be Captains:—Robert B. Barnetson and James A. Henderson.

South Western Mounted Brigade Field Ambulance: Captain Charles W. Edwards to be temporary Major.

Western General Hospital: Captain Robert A. Bickersteth to be Major.

Attached to Units other than Medical Units.—Captain Eric A. C. Fazan, from The Royal Sussex Regiment, to be Captain (temporary); Captain Owen W. D. Steel, from The Monmouthshire Regiment, to be Captain. The undermentioned Lieutenants to be Captains: Francis R. Eddison, Stephen O. Dolan, Ernest E. B. Landon, Charles E. Anderson, Reginald C. Neil, William Love, Frederic E. France, Austen A. Bearne, and Walter Smartt. Leonard Stephen Willox to be Lieutenant.

TERRITORIAL DECORATION.

The King has conferred the Territorial Decoration upon the undermentioned officers of the Territorial Force:—Yeomanry: Norfolk (The King's Own Royal Regiment), Surgeon-Major John F. Gordon-Dill. Royal Horse Artillery: Shropshire, Surgeon Major George Mackie. Royal Army Medical Corps: 2nd South-Western Mounted Brigade Field Ambulance, Lieutenant-Colonel Arthur Cary.

Colonel R. S. F. Henderson, R.A.M.C., honorary physician to the King, has been appointed Director of Medical Services in New Zealand.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 largest English and Welsh towns with populations exceeding 50,000 persons at the last Census, 7504 births and 4865 deaths were registered during the week ended Saturday, Sept. 11th. The annual rate of mortality in these towns, which had been 11·4, 12·3, and 12·1 per 1000 in the three preceding weeks, rose in the week under notice to 14·0 per 1000 of their aggregate population estimated at 18,136,180 persons at the middle of last year. During the first ten weeks of the current year the mean annual death-rate in these towns averaged 11·9, against 11·8 per 1000 in London. The annual death-rate during last week ranged from 3·7 in Eastbourne, 6·2 in Southend-on-Sea, 7·4 in Ilford, 7·5 in Blackpool, and 7·7 in Enfield to 20·0 in Rotherham, 20·6 in South Shields, 22·8 in Bootle, 22·9 in Tynemouth, and 23·6 in Gateshead.

The 4865 deaths from all causes were 641 in excess of the number in the previous week, and included 833 which were referred to the principal epidemic diseases, against numbers steadily increasing from 346 to 745 in the five preceding weeks. Of these 833 deaths, 664 resulted from infantile diarrhœal diseases, 47 from measles, 44 each from whooping-cough and diphtheria, and 17 each from scarlet fever and enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·4, or 0·3 per 1000 higher than in the previous week. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had steadily increased from 67 to 593 in the ten preceding weeks, further rose to 664 last week, and included 176 in London, 48 in Birmingham, 42 in Liverpool, 31 in Sheffield, 26 in Manchester, 25 in Leicester, 21 in Leeds, and 20 in Hull. The deaths attributed to measles, which had declined from 86 to 41 in the four preceding weeks, rose to 47, of which 5 were recorded in London, 4 each in Bradford and Barnsley, and 3 each in Blackburn, Sheffield, and Rhondda. The fatal cases of whooping-cough, which had been 40, 37, and 50 in the three preceding weeks, fell to 44, and included 13 in London, 5 in Sheffield, and 3 each in Southampton, Nottingham, and South Shields. The deaths referred to diphtheria, which had been 46, 47, and 33 in the three preceding weeks, rose to 44 last week, of which 10 occurred in London and 3 in Birmingham. The deaths attributed to scarlet fever, which had been 14, 26, and 22 in the three preceding weeks, fell to 17, and included 5 in London and 2 in Manchester. The fatal cases of enteric fever, which had been 9, 9, and 6 in the three preceding weeks, rose to 17, and included 2 deaths each in London, Portsmouth, Sheffield, Hull, and Newcastle-on-Tyne.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2367, 2360, and 2365 at the end of the three preceding weeks, further rose to 2443 on Saturday last; 385 new cases were admitted during the week, against 225, 315, and 365 in the three preceding weeks. These hospitals also contained on Saturday last 1206 cases of diphtheria, 54 of enteric fever, 42 of measles, and 11 of whooping-cough, but not one of small-pox. The 1218 deaths from all causes in London were 130 in excess of the number in the previous week, and corresponded to an annual rate of 14·0 per 1000. The deaths referred to diseases of the respiratory system, which had been 99, 100, and 121 in the three preceding weeks, were 124 in the week under notice, and were 8 below the number registered in the corresponding week of last year.

Of the 4865 deaths from all causes in the 96 towns, 207 resulted from different forms of violence and 382 were the subject of coroners' inquests, while 1461 occurred in public institutions. The causes of 30, or 0·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, and in 72 other smaller towns. Of the 30 uncertified causes, 6 were registered in Liverpool, 4 in Birmingham, and 2 each in London, Stoke-on-Trent, St. Helens, and Sheffield.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,345,500 persons at the middle of this year, 994 births and 550 deaths were registered during the week ended Saturday, Sept. 4th. The annual rate of mortality in these towns, which had been 12·6, 12·3, and 13·3 per 1000, fell to 12·2 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 13·4, against 11·6 per 1000 in the large English towns. Among the several towns the death-rate during the week ranged from 5·1 in Kirkcaldy, 7·1 in Paisley, and 10·5 in Clydebank to 16·5 in Coatbridge, 16·7 in Falkirk, and 17·6 in Perth.

The 550 deaths from all causes were 50 fewer than in the previous week, and included 71 which were referred to the principal epidemic diseases, against 72 and 76 in the two preceding weeks. Of these 71 deaths, 32 resulted from infantile diarrhœal diseases, 16 from measles, 11 from scarlet fever, and 4 each from enteric fever, whooping-cough, and diphtheria, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·6, against 2·1 per 1000 in the large English towns. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 26, 34, and 28 in the three preceding weeks, rose to 32, of which 16 were registered in Glasgow, 7 in Dundee, and 2 in Perth. The deaths attributed to measles, which had declined from 46 to 17 in the five preceding weeks, were 16, and comprised 6 in Edinburgh, 5 in Glasgow, 2 each in Paisley and Leith, and 1 in Greenock. The fatal cases of scarlet fever, which had been 20, 8, and 9 in the three preceding weeks, rose to 11, and included 4 each in Glasgow and Aberdeen. The deaths attributed to diphtheria, which had been 6, 6, and 9 in the three preceding weeks, fell to 4, and comprised 3 in Edinburgh and 1 in Paisley. The deaths referred to whooping-cough, which had been 1, 5, and 9 in the three preceding weeks, declined to 4, and showed no excess in any of the towns. Of the 4 fatal cases of enteric fever, 2 were registered in Dundee and 1 each in Glasgow and Aberdeen.

The deaths referred to diseases of the respiratory system, which had been 56, 58, and 58 in the three preceding weeks, fell to 56 in the week under notice, and were 9 below the number recorded in the corresponding week of last year.

The deaths attributed to violence numbered 17, against 34 and 28 in the two preceding weeks.

In the 16 largest Scotch towns 955 births and 629 deaths were registered during the week ended Saturday, Sept. 11th. The annual rate of mortality in these towns, which had been 12·3, 13·3, and 12·2 per 1000 in the three preceding weeks, rose to 14·0 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these towns averaged 13·4, against 11·9 per 1000 in the large English towns. The death-rate during the week ranged from 7·1 in Kilmarnock, 7·4 in Perth, and 8·4 in Leith, to 15·2 in Clydebank, 16·7 in Greenock, and 16·8 in Dundee and in Aberdeen.

The 629 deaths from all causes were 79 in excess of the number in the previous week, and included 89 which were referred to the principal epidemic diseases, against 76 and 71 in the two preceding weeks. Of these 89 deaths, 35 resulted from infantile diarrhœal diseases, 18 from diphtheria, 13 each from measles and scarlet fever, and 5 each from enteric fever and whooping-cough, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·0, against 2·4 per 1000 in the large English towns. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 28, 30, and 32 in the three preceding weeks, rose to 35 last week, and included 20 in Glasgow and 8 in Dundee. The deaths attributed to diphtheria, which had been 6, 9, and 4 in the three preceding weeks, rose to 18, of which 6 occurred in Glasgow, 5 in Edinburgh, and 2 in Aberdeen. The fatal cases of measles, which had declined from 46 to 16 in the six preceding weeks, further fell to 13, and comprised 5 each in Glasgow and Edinburgh, 2 in Paisley, and 1 in Leith. The deaths attributed to scarlet fever, which had been 8, 9, and 11 in the three preceding weeks, further rose to 13, and including 6 in Aberdeen and 3 in Glasgow. The 5 deaths referred to whooping-cough, of which 2 were registered in Glasgow, were 4 below the average in the earlier weeks of the quarter. The 5 fatal cases of enteric fever comprised 3 in Dundee and 2 in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 58, 58, and 56 in the three preceding weeks, rose to 65 in the week under notice, but were 8 below the number registered in the corresponding week of last year. The deaths attributed to violence numbered 24, against 28 and 17 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,212,380 persons at the middle of this year, 513 births and 389 deaths were registered during the week ended Saturday, Sept. 11th. The annual rate of mortality in these towns, which had been 13·6, 14·5, and 15·8 per 1000 in the three preceding weeks, further rose to 16·7 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these towns averaged 14·2, against corresponding rates of 11·9 and 13·4 per 1000 in the English and Scotch towns respectively. The death-rate last week was equal to 18·4 in Dublin (against 14·0 in London and 14·5 in Glasgow), 16·0 in Belfast, 22·4 in Cork, 15·2 in Londonderry, 13·5 in Limerick, and 13·3 in Waterford, while in the 21 smaller towns the mean rate was 14·2 per 1000.

The 389 deaths from all causes were 21 in excess of the number in the previous week, and included 39 which were referred to the principal epidemic diseases, against numbers increasing from 24 to 59 in the five preceding weeks. Of these 39 deaths, 30 resulted from infantile diarrhœal diseases, 6 from whooping-cough, 2 from diphtheria, and 1 from scarlet fever, but not one from enteric fever, from small-pox, or from measles. The mean annual death-rate from these diseases was equal to 1·7, against corresponding rates of 2·4 and 2·0 per 1000 in the English and Scotch towns respectively. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had increased from 13 to 41 in the five preceding weeks, fell to 30 last week, and included 13 each in Dublin and Belfast, and 2 in Cork. The deaths attributed to whooping-cough, which had been 8, 5, and 8 in the three preceding weeks, fell to 6, and comprised 5 in Belfast and 1 in Dublin. The 2 fatal cases of diphtheria were registered in Dublin, and that of scarlet fever in Belfast.

The deaths referred to diseases of the respiratory system, which had been 26, 34, and 28 in the three preceding weeks, rose to 41 in the week under notice. Of the 389 deaths from all causes, 113, or 29 per cent., occurred in public institutions, and 4 resulted from violence. The causes of 16, or 4·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the large English towns the proportion of uncertified causes did not exceed 0·6 per cent.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF WOUNDS IN WAR.

To the Editor of THE LANCET.

SIR,—On my return to Chatham my attention was drawn to the leading article in THE LANCET of August 21st on the treatment of wounds, and with reference to your remarks I wish to say that if I have unwittingly omitted any essential points or done any injustice in my remarks in THE LANCET of July 31st I regret it very much. Certainly I did not mean to suggest that antiseptics had not been, or were not being, used at the front; on the contrary, we all know that iodine has been supplied in large quantities, and probably other antiseptics as well. But everything depends on how antiseptics are employed, and my remarks only referred to the use of antiseptics for the thorough disinfection of wounds or for delaying the spread of infection till such time as disinfection can be carried out.

Perhaps also I ought to have pointed out in my paper the conclusions which I drew from the work at the Dardanelles, but I thought it best to leave the reader to make his own inferences. However, as it is evidently useless to pursue the subject further at the present time as regards the work in the army, I may, in ending the discussion, state my own deductions. 1. The Dardanelles results which I referred to show that, contrary to what has been asserted, it is possible to disinfect a very considerable proportion of these wounds and so obtain aseptic results. 2. This procedure, however, as carried out at present, takes a considerable amount of time; in most cases the patient must be placed under an anæsthetic, and I doubt if a surgeon could, on an average, deal with more than four or five cases in an hour, if so many. 3. Hence, while thorough disinfection is quite possible in a considerable proportion of the cases, where the surgeon has only a few to deal with at a time, it is not practicable under existing circumstances where large numbers of wounded are being brought in. 4. Where there are many wounded to be dealt with at one time any extensive attempt at disinfection would either mean a large temporary increase of the staff or the limitation of disinfection to selected cases, the others being dealt with by drainage, &c. The first would mean an organisation which may quite likely be impossible, while the selection of cases would not be an easy matter. 5. Seeing, however, that the successful disinfection of a wound makes a very great difference to the patient, and that it is possible to accomplish it under suitable circumstances in a considerable proportion of cases, it would seem that the most important question to be investigated in relation to the treatment of wounds is how it may be practicable to overcome these difficulties and render disinfection possible even if the cases are numerous. Hence the origin of my efforts to delay the onset and progress of the infection so that the cases can wait for some time until it is possible to deal with them thoroughly. On this point there was no opportunity of obtaining evidence at the Dardanelles.

My work in this direction has so far been purely experimental, and I have not professed to put forward any completed plan because I have had no opportunity of working at the subject practically. I have, however, suggested that one might begin with a cresol paste, &c., and work

on from that to other antiseptics and formulæ till something satisfactory is obtained. Apart from the insufficiency of the phenol group of antiseptics for dealing with all forms of bacteria, the cresol paste in its first formula had the disadvantage of containing wax, and this is the chief cause of the trouble which is said to have arisen in some cases. But there are other bases and other and more potent antiseptics which can be tried, and my hope was that whoever took the matter up would pursue it until a satisfactory solution was obtained. Hence my great disappointment at the course of events and at the dropping of the investigation because the first attempt did not lead to a perfect result.

I may, in case anyone should wish to follow up the matter, mention some of the antiseptics which, so far as I have investigated them in the laboratory on these lines, seem to be worth while experimenting with. The difficulty in practice with all of them when used for the purpose of delaying infection will be to bring them sufficiently in contact with the deeper parts of the wound to effect the temporary purpose. The whole matter can only be worked out on a small scale in the first instance.

Borsal (Naval Medical Committee).—This is the one of which I have chiefly had experience and with which I know that much can be done.

Benzoxydol.—This is a powder consisting of a combination of peroxide of hydrogen with benzoic aldehyde which was introduced by Sir William Ramsay and which can be obtained from the Oxydol Company, 23, Fitzroy-square, W. The pure compound contains about 15 per cent. of peroxide of hydrogen, but if that proves to be too strong it can be diluted with boric acid to any extent. It can also be obtained mixed with soap or various fats. Benzoxydol is a good antiseptic so far as laboratory experiments go, and diffuses very readily and widely; it might be especially useful in connexion with anaerobic organisms. Fleet-Surgeon Bassett-Smith has made one experiment on guinea-pigs heavily infected with earth containing large numbers of tetanus and gas gangrene bacilli: of three animals so infected, the wound being afterwards filled with the benzoxydol powder, two remained well, while one and the control animal died.

Hypochlorites (Lorrain Smith, Drennan, Rettie and Campbell, and also Carrel and Dakin).—In a few laboratory experiments which I have made with eupad (the name given by Lorrain Smith to the mixture of bleaching powder and boric acid) it proves to be a very powerful antiseptic and diffuses widely in agar plates, and excellent results are reported by some who have used it in septic wounds. Eusol, a solution of hypochlorous acid, did not, however, show any marked inhibitory action in diffusion experiments. It is quite possible that eupad would be a very useful agent in delaying infection in the first instance, and the antiseptic might diffuse more rapidly and widely in the wound than a non-volatile one. It interests me further in that "chlorinated soda" was a favourite lotion for wounds in Professor Spence's wards when I was a student at Edinburgh.

Mercurial preparations.—Mercury does not diffuse so readily as many other less potent antiseptics owing apparently to its rapid combination with albumin, but the preparation of corrosive sublimate with malachite green (Cheatle, Fildes, and Rajchman) seems worth a practical trial. It gives a considerably larger diffusion area than 1–500 sublimate alone.

Formalin preparations are irritating but powerful antiseptics, and something might be done with lysoform and paraform.

Among minor antiseptic agents may be mentioned *cinnamon bark oil* and *cinnamic aldehyde.* They act very strongly as inhibitory agents against certain forms of bacteria, and might find a place in the treatment of wounds. As an interesting side issue I may mention that my laboratory assistant told me some time ago that he had read in one of the medical papers that cinnamon oil was a good application for warts. He did not remember the reference, and so far I have not been able to find it, but as I had myself several warts which I could not get rid of (although to tell the truth I had not tried very much) I amused myself by applying the oil to some of the warts from time to time when I happened to remember. In the course of a few weeks they entirely disappeared. On the theory that warts are of parasitic origin I assume that the oil diffused through the wart and killed the parasite. It did not cause any necrosis.

I am, Sir, yours faithfully,

W. WATSON CHEYNE.

Royal Naval Hospital, Chatham, Sept. 11th, 1915.

HOSPITAL TREATMENT *V.* LUNACY TREATMENT.

To the Editor of THE LANCET.

SIR,—I am grateful to Sir Geo. H. Savage for his concession to the view that all persons with mental disorder should be given the chance of escape from commitment to an asylum by preliminary diagnostic observation and treatment. The justification and the need of this are due to the fact that there is a stigma attached to insanity. Your correspondent says that "a good deal of nonsense is talked about the stigma." I agree, and it is this nonsense that is the obstacle to be overcome in the accomplishment of the reform for which I work and write. An alienist recently declared, for instance, that as insanity was a diseased condition of the brain, just as any other disease might be the disease of any other organ, there *should be* no stigma. What is the stigma, and why should society attach and confirm it? The stigma is the verdict which a legally constituted court pronounces, when upon expert medical evidence it declares that a person is unfit to be at liberty and to continue his normal relations with his fellows. To have "been in an asylum" is in the popular mind indelible evidence of this verdict. It can never be repealed. It remains against him and against his children's children. This is a world fact that was, and is, and will remain, and you cannot alter it by altering or softening names and terms. But it is not only a fact, it is a sociological necessity. The stigma is right and necessary. Insanity is the most hereditary of all disorders. Every young man and young woman and managing mother should know "who" and "why." The asylum tells them who and physiology tells them why. There is stigma enough here, and pathetic though it be, it is a social asset that the community cannot afford to lose.

But if a person has once "been in an asylum" he is never quite restored to his former place in his social setting. If a man is abnormal, or has been so, we do not, and we dare not, treat him normally. It is essential for us all to know whether those with whom we have to do are normal according to commonly accepted standards or not, and even the suspicion of his mental stability is a stigma. The

asylum is the popular test. The stigma therefore is pathetic tragedy, but it is, and *must be*. But woe be to those who add it unnecessarily. It is to avoid this that I plead for a hospital domain in which there shall be no asylum, no compulsion, and no circean contamination by Lunacy Commissioners, till every effort of preventive art has been exhausted. "Early recognition and treatment are essential," says Sir George Savage. We will get these when provision is made for preventive treatment under hospital administration and conditions, when the stigma does not attach, but not till then.

I am, Sir, yours faithfully,

House of Commons, Sept. 12th, 1915. W. A. CHAPPLE.

SALINE INJECTION INTO THE FEMORAL VEIN DURING AMPUTATION OF THE THIGH OR DISARTICULATION OF THE HIP.

To the Editor of THE LANCET.

SIR,—The annotation on this subject in THE LANCET of Sept. 4th reminds me that the method was recommended at least 10 or 12 years ago by Mr. Albert E. Morison, of Hartlepool, at a meeting of the Northumberland and Durham Medical Society and I have no doubt that there will be some record in the Transactions, though I have not had time to go through them. However, that is quite by the way, and my excuse for taking up your space in connexion with the matter is to utter a note of warning against massive injections of saline solution given directly into the veins.

Fifteen or sixteen years ago this plan was very popular in Newcastle and I had an opportunity of observing large numbers of cases so treated. The patients were those suffering from grave injuries, so-called post-operative shock or the effects of sepsis, and many died soon after an intravenous infusion of saline. Death sometimes took place quite suddenly and occasionally during the actual performance of the infusion. It did not occur to us for some time that many of the fatalities might be the result of the rapid addition of so large an amount of fluid to the circulation. That acute observer Professor Rutherford Morison was not slow to point out that at the post-mortem examinations on these cases there was often an extreme degree of œdema of the lung, which he suggested was the direct result of the exudation of the injected fluid.

After a time we learnt to inject the saline into the cellular tissue or to rely on the older and slower method of injection per rectum, and in my practice one or other of these methods has almost entirely superseded the injection into the veins. I feel sure that except in cases where there has been a sudden large loss of blood it is unwise to inject saline solution directly into the veins, and even when necessary the total quantity should not exceed a pint and should be administered very slowly. It seems unreasonable to suddenly surfeit the embarrassed cardiovascular system with a large volume of fluid which it must accept willy-nilly without time for the delicate mechanisms for the proper regulation of the balance of the volume of circulating fluid to be adjusted. On the other hand, it seems equally reasonable to inject even a large amount of such fluid into the cellular tissue, where it forms a reservoir on which the system can draw as required. That it acts in this depôt fashion is proved by the varying rate of absorption which is observed in cases in which this method of subcutaneous infusion is used.

At a time like the present, when so many men are actively engaged in surgical work without the experience which long association with a large hospital brings, it is important only to recommend such methods as have stood the test of time, and I feel that some warning is necessary with regard to this particular subject. Such warning might legitimately be extended to the haphazard use of various drugs and animal extracts which have acquired a reputation in the treatment of surgical shock, but often with but slender foundation.

I am, Sir, yours faithfully,

G. GREY TURNER, M.S., F.R.C.S. Eng.,
Major, R.A.M.C. (T.F.).

Newcastle-upon-Tyne, Sept. 7th, 1915.

PEPPER AS A PROPHYLACTIC AGAINST FILARIASIS.

To the Editor of THE LANCET.

SIR,—A study of the diets peculiar to the various races in this colony reveals the important fact that where much pepper is used in the food filariasis is less evident in direct proportion. The aboriginal Carib Indians make use of an enormous amount of pepper in their food and drink, and filariasis is almost unknown amongst them; the East Indian immigrant and those "creole" East Indians who adhere strictly to their national dishes, in which pepper enters largely, seldom, if ever, suffer from filariasis. On the other hand, filariasis is most common among Portuguese, negroes, and other inhabitants, who make use of very little pepper in their food.

From the above observations I concluded that the active constituent of pepper was prophylactic against filaria, and that a knowledge of these prophylactic properties had been handed down and followed blindly as a habit or custom among primitive peoples. I experimented with tinctura capsici in cases of acute filarial fever and lymphangitis, and found that the fever and lymphangitis yielded promptly to the administration of the drug. Probably piperine would act in the identical manner. The treatment promises to have far-reaching results, and I hasten to record my observations.—I am, Sir, yours faithfully,

J. A. ROBERTSON, L.R.C.P. & S. Edin.,
Medical Officer.

Georgetown, British Guiana, August 6th, 1915.

*** The average amount of piperine in ordinary pepper is about 5 per cent. The occurrence of such a high percentage of alkaloid in a plant is unusual, but piperine would not appear to be a very active substance, while it is doubtful whether it really can be classed amongst well-known alkaloids like morphine or strychnine, and it has been officially described as "a feebly basic substance." It is said to have been employed in intermittent fever, but with little success, in doses, however, of only 3 to 6 grains three times a day.—ED. L.

THE LATE DR. DAVID B. LEES.

To the Editor of THE LANCET.

SIR,—The news of the sudden passing of Dr. Lees will have come as a great shock and sorrow to all his old pupils. Dr. Lees was most careful in all his work, and spared neither time nor trouble to do his best for his patients. He was keenly alive to all progress and was ever willing to impart his knowledge to those who worked under him. His tour through the wards at St. Mary's was always popular with the students, and among the circle of those

listening to his remarks by the bedside were frequently to be found some of his old house physicians who had returned to brush up their work. In the days when I was his house physician he was especially enthusiastic upon the use of the ice-bag for pneumonia. At the beginning of our six months' residence few of his house physicians were so sanguine in this direction as our master, but when our time of office had expired most of us were converted to his views. He used to insist that the first thing to be done was to place hot-water bottles to the feet of the patient and then to apply ice-bags not only to the dull area, but to the entire lung affected. There is no doubt that under this treatment the area of dullness receded sometimes in a remarkable manner, and if one could not state with certainty that the treatment aborted the disease (though at times it appeared to do so) it gave great relief to the patient.

Dr. Lees was, perhaps, best seen in his systematic lectures, which always gave evidence of careful preparation and attracted large attendances. His sterling and upright character will always remain as a bright example to those who were associated with him. I am, Sir, yours faithfully,

City of London Mental Hospital, Dartford. R. H. STEEN.

TRENCH FROST-BITE.

To the Editor of THE LANCET.

SIR,—In the "Practical Considerations for Prevention" suggested by the authors of the paper on the Pathology of Trench Frost-bite,[1] there is an omission which seems to me important. No recommendation is made for the provision of high rubber boots and thigh wader attachments. If the men were allowed to wear these there is no doubt that the cases of frost-bite would be few, and the other preventive measures suggested would be unnecessary. Leather boots, leggings, extra clothing, and vaseline to the feet are all useless when once they become wet, and with water near freezing point 36 to 48 hours' exposure is quite enough to produce frost-bite. Men who have gone for several days on ski-ing expeditions with the ordinary ski-boots (which are saturated with grease and made as waterproof as possible) will recall that at the end of a day's march the leather is sodden, and unless the boots are dried near the convenient hotel radiators, the next day they begin to let the melting snow in. That happens in running through dry, crisp snow; standing in icy water continuously, the wet-resistance of the leather would be less.

I would suggest: 1. Two pairs of easy fitting socks. 2. Pliable leather boots with plenty of toe room. (It is most important that the foot be not cramped and that the toes can be easily moved.) 3. High rubber boots, coming well up to the knee. 4. For men going into trenches where it is known that the water is high, impermeable rubber-fabric waders and breeches combined. If the men start out with warm feet thus clothed, and are encouraged to move the feet and toes, they will keep warm unless leakage of water occurs into the boot. Nothing but rubber is of any use. If the rubber boots are impracticable, then a stout rubber-treated canvas stocking and thigh-piece could be worn over two pairs of socks and inside the ordinary soldier's boot, care being taken that the boot is extra large and that ankles and toes are free from constriction.

I am, Sir, yours faithfully,

Darley Dale, Matlock, Sept. 14th, 1915. W. CECIL SHARPE.

[1] THE LANCET, Sept. 11th, 1915, p. 585.

A GREEN BACKGROUND FOR THE OPERATION AREA.

To the Editor of THE LANCET.

SIR,—It has long been the custom of surgeons to use white sterile towels or sheets around the area upon which an operation is to be done. There are many disadvantages in the use of white. A large expanse of white, especially when the sun is shining, is wearisome to the eye and causes fatigue, and it detracts from the value of the light upon and within the wound. It is not sufficiently realised that good illumination is not needed, except upon the part which is concerned in the operation. Light should be concentrated upon the wound and not widely diffused. For the last two and a half years I have used towels and sheets of green colour instead of white. Green is a restful colour, offers no sharp contrast to the colours of the wound surfaces, and allows ligatures and sutures to be clearly seen against it. I have tried black towels, but the change from black to other colours in an operation theatre is sudden and trying, and ligatures do not stand out clearly against such a background. I have painted the walls of my operation theatre green, and have a green coloured material on the floor. The great relief to the eyes which results from the use of a green material round the wound is remarkable. The ordinary green "casement cloth" from which my towels and sheets are made is of good colour, retains its colour on washing and sterilising, is easily obtained, and is cheap.

I am, Sir, yours faithfully,

Leeds, Sept. 9th, 1915. BERKELEY MOYNIHAN.

THE CAUSE OF ENLARGED TONSILS.

To the Editor of THE LANCET.

SIR,—In his Hunterian lecture in THE LANCET of May 22nd Mr. F. C. Pybus does not overlook this very common ailment in his exhaustive account of infections of the tonsils. Although he rightly describes the condition as being the result of repeated slight attacks of tonsillitis, I do not think that he hits the mark when he speaks of measures of prevention. He recommends good milk (probably with tuberculosis in fear), a plain, wholesome diet and cleaner air, but says nothing at all about cleaner *water*. In a disease that is so common and slight, possible contributory causes are naturally plentiful and inconspicuous; but I believe that the one potent factor is impure water. I have observed for very many years, both in London and Australia, that children who develop and suffer from enlarged tonsils habitually drink unfiltered and unboiled tap-water. This is almost, if not quite, invariably the case in my experience. I always make the inquiry when I meet with such a case, and I cannot remember receiving a negative answer; further than this, I am usually told that the child is specially addicted to drinking from the tap. This is probably due to the dryness and thirst provoked by the frequent febrile condition of slight tonsillitis; and thus the morbid condition is aggravated. When I have succeeded in getting plain tap-water improved by being filtered or boiled, I am quite sure that the patient's condition has improved also and that attacks of tonsillitis have been less frequent. If I am right in my view, it ought to be a simple matter in very many cases to prevent the disease I should like to know the opinion of other members

of the profession on the subject. As far as I know, this mode of causation is not specially mentioned in the text-books.

I look on the tonsils as a filter to prevent certain noxious matters entering the system by way of the mouth. When such noxious matters are in excess, the filter becomes clogged and is unable to cope with the material and in consequence becomes inflamed and morbidly hypertrophied.

I am, Sir, yours faithfully,

F. LUCAS BENHAM, M.D., M.R.C.P. Lond.

Exeter, South Australia, July 21st, 1915.

MEDICAL ATTENDANCE AT NIGHT.

To the Editor of THE LANCET.

SIR,—I am glad you have again drawn attention to this matter, as it is a grave defect in the organisation of the profession for attendance upon the public. From time to time some scandal occurs, and strong but often quite unfair comments are made upon the conduct of some medical practitioner who possibly for perfectly good reasons was unable to attend the emergency call.

I have previously drawn attention to the scheme which apparently works quite well in Paris (see Medical Ethics, second edition, p. 87). In that city doctors who are willing to undertake night work inscribe their names in a list kept at the police office of each district, and are then liable to be called upon by any person provided with an order from the police office, which is kept open all night and to which applicants in need of medical assistance can go. The doctors are paid by funds raised partly by charity and partly from public money; this last is essential, as it is monstrously unfair to expect that doctors should attend night calls without a reasonable prospect of being paid for their trouble.

I am, Sir, yours faithfully,

Birmingham, Sept. 13th, 1915. ROBERT SAUNDBY.

THE VALUE OF PROLONGED REST IN THE TREATMENT OF HEART DISEASE IN THE YOUNG.

To the Editor of THE LANCET.

SIR,—I have read with much interest Dr. Guy Barton's article on the above subject which appeared in THE LANCET of Sept. 11th. I note that he makes no mention of treatment by baths and exercises, commonly known as the "Nauheim" treatment. I have used this treatment in cardiac cases in children of from five years of age upwards, and it is my experience that the "Nauheim" treatment, combined with rest, is productive of a much more rapid and complete return to health in cases of children suffering from the results of rheumatic myocarditis and endocarditis than is the case if rest is the only treatment. In cases of valvular disease, where there is good compensation and no cardiac dilatation, the treatment is not necessary, but when any cardiac dilatation is present it produces results which cannot be obtained by any other methods. As the treatment can be given in England with results as satisfactory as those obtained at Nauheim, I should be interested to know if Dr. Barton has used it, and, if so, whether he has given the "still" baths in the first half of the course.

I am, Sir, yours faithfully,

LESLIE THORNE THORNE.

Harley-street, W., Sept. 13th, 1915.

MEDICAL STUDENTS AND COMBATANT COMMISSIONS.

To the Editor of THE LANCET.

SIR,—Lord Kitchener's opinion that junior medical students should not be discouraged from taking combatant commissions clears the air for those who still have doubts. It is obvious that junior students, as such, cannot be of use to their country during the war; while manifestly it would be a pity that the study of medicine should be regarded as a bomb-proof shelter where lack of patriotism could be euphemistically described as doing better work at home. Logically it could be shown that everyone is better at home; but alas! it would be a German home. In times of war there is always an apparent dearth of doctors, and this must be more marked in Germany than with us; in times of peace this soon rights itself. The scarcity of medical residents for hospitals before the war is no index of the shortage of numbers in the profession, it is merely evidence that the medical curriculum is too long.

I am, Sir, yours faithfully,

Formby, Sept. 4th, 1915. ARTHUR C. WILSON.

THE PRESENT INCIDENCE OF GLAUCOMA.

To the Editor of THE LANCET.

SIR,—During the past three months I have seen four times as many fresh cases of glaucoma as in the corresponding period of any former year. In a large proportion the patients so affected have relations serving in the war. It would be interesting to know if others of your readers have remarked the same occurrence.

I am, Sir, yours faithfully,

KENNETH CAMPBELL.

Wimpole-street, W., August 29th, 1915.

A "NEW SIGN" IN PULMONARY DIAGNOSIS.

To the Editor of THE LANCET.

SIR,—The mid-dorsal strip of symmetrical dullness between the fifth and seventh spinous levels, which has been identified by Dr. Clive Riviere, is of great interest as a new departure for study. The practical use which he claims for it in the early diagnosis of pulmonary tubercle or of its threatenings, is enough to earn for it a thorough investigation. At the least, this sign cannot fail to be of permanent value as a substantial basis for the study of the so-called "pulmonary reflex" to which he refers as a part factor in its production. The somewhat immature nature of the evidence which has thus gained a free pass into an argument of fact is not the least important feature in the main proposition, and may justify some brief comment.

Abrams's theory of the occurrence of reflex fluctuations in the local ventilation of the lung is an undeniably suggestive addition to our vague conceptions concerning the intrapulmonary distribution of air. Yet we should not overlook the coarser mechanisms which govern the pulmonary air-charge as a whole, and also the varying local air-charge. Their consideration is nowhere so essential as for our interpretation of the results of any "mechanical" interference, such as blows or local pressures over the thoracic surface. Bones, cartilages, and fibrous tissues are the actual moving levers in respiration; but they are entirely passive

agents. The active or reactive agents are the skin and the muscles. Their reflexes are definite and obvious. The most powerful of the "thoracic" respiratory reflexes is the temperature reflex elicited through the skin in the general cold affusion. We are probably right in regarding this as a medullary reflex, and as one likely to involve not only the respiratory, cardiac, and vaso-motor, but also any broncho-motor centres that may own a separate existence. For the special study of any assumed local bronchial reflexes of a purely nervous order, a further investigation as to the effects of strictly "localised" affusions might be instructive.

Whenever the surface stimulation is "mechanical" the muscles themselves are mainly concerned. Their modes of stimulation are varied, and that by "tension" should not be overlooked. But their two main responses are the neurotonic, which may or may not spread to the whole of the muscle, and the myotonic, which is essentially local and well known in its maximal form as the fibrillar contraction of myoidema. Both of these have to be borne in mind in the practice of percussion. The lung tissue itself, and much more its bronchi, are efficiently shielded for all ordinary purposes from any direct local pressure. Hence the mechanism of their assumed reflex stimulation from any such has been projected into the nervous conduction *viâ* the medulla, but, as it seems, without any regard for the more material phenomena elicited in the respiratory muscles under immediate stimulation. At the same time, too, the evidence in support of any alleged broncho-motor response has been entirely based upon the debateable assumption that local fluctuations in percussion resonance cannot originate otherwise than from variations in the degree of alveolar inflation or deflation (quite apart from any consideration of the variable "personal percussion-factor") at the spot under examination.

For our diagnosis the main clinical question is whether a dullness is truly visceral or not. The pleximeter might help, but in this case it is not indispensable, and the tests are equally available for the advocates of exclusive finger percussion. I may now submit them for wider trial and for a confirmation of my own finger results, which have been so far conclusive, though unavoidably restricted to few experiments. They show that thoracic posture and that arm-attitude are of primary importance in the production of the symmetrical dullness, either as favouring it or the reverse. 1. The "favouring" thoracic posture is that which is always adopted for any careful dorsal percussion—a "slight" forward inclination. 2. The "least favouring" one (it is apt to completely eliminate the dullness, as verified, for instance, in a patient with advanced bilateral lesions) is that of the over-extended, hollowed spine, with head retraction. The same result is also obtained from the prone decubitus with retracted head. 3. Almost equally "unfavourable" is a full inclination forwards. When the thoracic spine is "fully" bent the transverse dull strip becomes very resonant. If the bending should be to one side instead of forwards, then the change to resonance is limited to the other side (the same loss of symmetry in percussion also results from unilateral arm movements). 4. The "favouring" arm-attitude is the vertical hanging attitude. 5. The unfavourable ones are: (*a*) the complete extension of the arms horizontally forwards; and (*b*) their forward adduction with elbows crossed. Either of these attitudes may sometimes suffice, without any spinal movement, to transform the dullness into full resonance.

The conclusion that these changes are not visceral, but "myotensive" (in a broad sense) is given by their rapid and unvarying alternation at will. On the other hand, the reflex production or increase of the dullness by moderate thumping has not hitherto been obtainable by me in those postures and attitudes which favour resonance. The provisional inference would be that whenever this does succeed it is then likewise a myotensive phenomenon. The significance of the new sign would thus appear to be anatomical and physiological rather than pathological. It may nevertheless prove of genuine value as an adjunct in early diagnosis, but its factitious aspects could hardly admit of its being accepted as reliable *per se*.

Space forbids any further discussion, whether of the influence of muscular tone, tonic contraction, tonic or atonic tension, &c.; of the question as to the dorsal fascia and its tension; or of the relative share of the movements of the spine or of the scapulæ, or of their muscles. It is enough to mention as a general impression that the overlapping by the trapezius of the more horizontal upper fibres of the latissimus dorsi which occurs at the level of the dullness, might be causally related to its localisation and shape and postural variations, and to its mechanical production.

I am, Sir, yours faithfully,

WILLIAM EWART.

Upper Brook-street, W., Sept. 11th, 1915.

THE LATE LIEUTENANT-COLONEL EDWARD LAWRIE, I.M.S.

To the Editor of THE LANCET.

SIR,—The work which Edward Lawrie did for anæsthetics calls for recognition such as could hardly be accorded to it within the limits of an obituary notice. I was brought very much into contact both with him and his work; and although on many matters we could not see eye to eye, and were antagonists in jousts fought out in the columns of THE LANCET and elsewhere, yet Lawrie always impressed me and filled me with admiration. Whether his views were right or wrong these meant everything to him; he was their whole-hearted champion, neither would he brook opposition to them nor believe it possible that they could be anything but the truth, the whole truth, and nothing but the truth. He fought with his gloves off because he believed he strove after the truth, and one honoured him for his very strenuousness in combat. Lawrie did much for the science of anæsthesia, and though we may not follow all his teaching we must recognise the value of his work, since it was he who stirred the water and many were healed.—I am, Sir, yours faithfully,

DUDLEY W. BUXTON.

New Cavendish-street, W., Sept. 14th, 1915.

AN AMENDED MEDICAL CURRICULUM.

To the Editor of THE LANCET.

SIR,—Although it is not possible to predict precisely the social and economical conditions which may follow as a result of the war, some of the directions in which medical men will be called upon to exercise their knowledge and skill are fairly clear. Coupled with a lower birth-rate the loss to the nation by the death of many of

the youngest and most promising of its male population may cause a serious diminution in the number of able-bodied men necessary to carry on the life of the country professionally and commercially. How best to encourage a higher birth-rate is certainly one of the problems with which future legislation will have to deal, and this is a question which concerns the medical man quite as much as, if not more than, the Legislature. The sickness and invalidism consequent on the wounds and accidents of the battlefield must necessarily require treatment, while proper provision for the maimed soldier and sailor cannot be satisfactorily dealt with without the aid of medical and surgical advice. Then, again, it is probable that from many causes the physique of the future mothers of the nation will have been lowered, with its consequent undesirable effect upon the offspring, and this again is a matter which directly concerns the medical man. The increased probability of strikes through the unrest caused by the dislocation and readjustment of industrial conditions must not be overlooked in their effects upon the working population.

I see that excellent medical politician, Dr. William Bruce, is advocating in your columns an amended, by which he means an abbreviated, medical curriculum, and I am inclined to think that he has right on his side, for I take it that the public requirements from the medical profession after the war will largely be directed to social questions, and an extra year or so at pathology will not necessarily improve the utility of a medical man in such directions.

In deciding on medicine as a career the young men from our public schools will no doubt be largely influenced by the fact that the country is in urgent need of their services, and that the help which they can give will add to the greatest asset which a country can possess—namely, national health. But after the views expressed in the letter to Professor Halliburton which has been published in THE LANCET the medical students from the public schools will be few in number. All the more reason that when they do join they should be helped to reach an adequate standard of efficiency with promptitude. Opportunities for serving the State which future legislation may supply will open still wider the doors to desirable positions. One must not urge young men of fighting age to become medical students, but it is permissible to say that if for any reason a young man cannot join the army he can help his country in the future by joining a medical school and working hard.

I am, Sir, yours faithfully,

Sept. 13th, 1915. M.D.

A GENEROUS GIFT TO KING EDWARD VII. HOSPITAL, CARDIFF.—An anonymous donor has given £5000 for the purpose of establishing a maternity department at the King Edward VII. Hospital, Cardiff. With the money a flat will be built over the Bute Wards to comprise a ward of 15 beds and a small emergency ward of two beds. In a letter which accompanied the gift the anonymous donor expressed a wish to do something to forward Sir William James Thomas's great scheme for the completion of the Welsh National School of Medicine, and expressed the conviction that notwithstanding many other important claims which must be met in consequence of the war, the voluntary hospitals which have done, and are doing, such splendid work for our soldiers must have first claim upon monetary gifts.

The War.

THE CASUALTY LIST.

THE following names of medical men appear among the casualties announced since our last issue:—

Died of Wounds.

Lieutenant C. M. Harris, R.A.M.C.
Lieutenant G. Clarke, R.A.M.C. (T.F.), 1st Welsh Field Ambulance.

Died.

Surgeon D. R. Bedell-Sivright, R.N., Field Ambulance, R.N. Division.
Lieutenant S. B. Walsh, R.A.M.C.

Wounded.

Captain J. H. Magoveny, R.A.M.C.
Major R. Kelsall, Indian Medical Service.
Lieutenant G. B. Pearson, R.A.M.C. (T.F.), attached to the Bucks Yeomanry.
Captain O. Teichmann, R.A.M.C. (T.F.), attached to the Worcester Yeomanry.
Captain C. T. Edmunds, R.A.M.C.
Lieutenant T. A. Flynn, R.A.M.C., 2nd East Anglian Field Ambulance (T.F.).
Captain G. S. Pirie, R.A.M.C.
Lieutenant T. L. Ingram, R.A.M.C.

THE HONOURS LIST.

The Distinguished Service Order has been conferred upon—

Surgeon Basil Alfred Playne, M.B., R.N., Royal Naval Division.

For gallantry and good service during operations near Gaba Tepe from April 28th to May 1st, 1915. On several occasions he rushed across the open (the communication trench being incomplete) into the fire trenches and attended the seriously wounded, regardless of the severity of the enemy's fire; on one occasion he carried a wounded officer on his back from the fire trench to the communication trench under heavy fire. His conspicuous bravery not only inspired the stretcher-bearers to perform fine work, but gave confidence and spirit to all ranks. He was again several times brought to notice for gallant deeds when attending wounded on May 3rd and 4th.

Surgeon Playne before the war was in general practice at Torquay.

Captain Hugh G. Monteith, R.A.M.C. (attached to the 2nd Duke of Cornwall's Light Infantry).

For conspicuous gallantry and devotion to duty in picking up and attending to the wounded under heavy fire in the actions near St. Jean and Wieltje, east of Ypres, between April 23rd and 27th, 1915, when the casualties in the battalion to which he was attached were very heavy.

The Military Cross has been conferred upon—

Lieutenant William B. Keith, M.B., 1st Home Counties Field Ambulance, R.A.M.C. (T.F.).

For conspicuous gallantry at Hooge on the night of April 23-24, 1915. When a shell killed two stretcher-bearers who were bringing in a wounded officer he went out to assist, and under a heavy fire brought the wounded officer into the dressing station. He has performed many acts of a like nature, and has consistently shown coolness and resource under fire.

The Russian Order of St. Anne, Third Class, in recognition of war services, has been conferred upon—

Surgeon W. I. Gerrard, M.B., R.N.V.R. Surgeon Gerrard, who has been serving on board H.M.S. *Imperieuse*, is assistant school medical officer in Aberdeen.

The Territorial Decoration has been conferred upon—

Lieutenant-Colonel Arthur Cary, R.A.M.C., 2nd South-Western Mounted Brigade Field Ambulance.

DEATHS AMONG THE SONS OF MEDICAL MEN.

The following sons of medical men are to be added to our lists of those who have fallen during the war:—

Corporal A. F. Hudson, Gordon Highlanders, son of Mr. A. B. Hudson, M.R.C.S., of Victoria, B.C., Canada.

J. J. Kearney, Royal Gloucester Hussars, son of the late Mr. J. P. Kearney, M.R.C.S.

Major J. N. Jephson, 6th (Service) Royal Munster Fusiliers, second and last surviving son of the late Deputy Inspector-General W. H. Jephson, M.D.

A. H. Moreton, 8th Light Horse, Australian Imperial Force, second son of Mr. F. Moreton, M.R.C.S., &c., of Geelong, Victoria, Australia.

Lieutenant G. P. Walsh, 2nd Sherwood Foresters, son of the late Fleet-Surgeon J. J. Walsh, R.N. (himself killed in action on Nov. 1st, 1914).

Second Lieutenant S. C. Garrard, 14th Service Battalion Rifle Brigade, youngest son of the late Mr. W. Garrard, F.R.C.S., of Melbourne, Australia.

"VOLUNTARY CONSCRIPTION" AMONG THE MEDICAL PROFESSION.

If the daily press is to be believed, there threatens a breach in our national councils in the attempt to arrive at the best means of raising military forces. So far as the medical profession is concerned, an interesting situation has arisen, one which may be in a sense compared to the old-timed methods of raising the military forces of the Crown. To judge by our history-books, when the Sovereign wished for armed forces he sent round word to the chiefs of the various counties and towns requesting them to furnish him with so many men, and the demand was apportioned to the estimated capacity of the locality. The War Emergency Committee, a note on whose last meeting occurs below, is attempting to secure the medical requirements of the War Office by a similar scheme. It is essentially a scheme of voluntary conscription.

The Committee has issued circulars to every division of the British Medical Association, intimating to them the number of men who should be induced to volunteer for service from that division. It has called upon the local War Emergency Committee, comprised of all medical men whether members of the British Medical Association or no, to furnish this number of men, by preparing a list of men of military age, and investigating their circumstances, and in a last resort making arrangements to free those men from their present civil obligations. The medical profession can therefore select for service from among themselves those who are most able to go, and the War Emergency Committee, whose endeavours have been supported throughout by the War Office, is repeating the appeal that it has made for men who can go now and at once or at some near and specified date, and also for those who can only enrol themselves with the Committee as willing to be called upon to serve with due notice and at such time as their services may be urgently required.

There are certain questions that continually occur in correspondence which appear to hinder men from volunteering, and it may be worth while here answering them.

1. Men who are accustomed to do certain work at home naturally desire to do that same work on military duty and then offer accordingly. Such a limitation of their offer in most instances makes it hard to accept. Certain specialists are necessarily required at or near the front, but these men are for the most part directors of others and few in number. At big hospitals there are necessarily specialists, but again most sickness and wounds fall within the province of the general physicians and surgeons. The man who is wanted *to serve with troops*, that is, actually with the fighting men, is one who is blessed with common-sense, and who can apply his medical training to constantly changing circumstances. He must be prepared to smell the latrines, sample the food, watch the water-supply, look at the men's feet, inspect the tents, see the camp is safe from surface water, and attend to a host of little things like this, which in their total are as valuable as anything that can be done by the most expert operating surgeon.

2. We hear constant complaints that young R.A.M.C. officers are put in charge of troops at home instead of giving the local civil practitioners charge of these same troops. At first sight it looks as though there were too many R.A.M.C. officers, but men must be kept ready to be called upon for any emergency, to be sent to France, the Dardanelles, or elsewhere. During the waiting period they are detailed to home camps to learn the routine of military life.

3. Reports fly round of the number of medical officers at the front who are "doing nothing," and of the number of hospital beds that are empty. Supposing all these statements to be true, at their face value they form no fair criticism of the military conditions. Preparations have to be made far in advance of actual military conflicts and beds must be empty sometimes, according as the wave of battle passes from one district to another. If at any time there were an unexpected conflict, many wounded, and no beds, then there would be a scandal. It is better to be over-prepared than unready. But in any case these local conditions do not affect the medical necessities of the new armies.

THE ROYAL SOCIETY OF MEDICINE: THE EXHIBITION OF FRACTURE APPARATUS.

The arrangements for this exhibition, which is to be held at the house of the Royal Society of Medicine, 1, Wimpole-street, W., by the officers of the Royal Army Medical Corps, are proceeding satisfactorily, but there has been an alteration of date. The exhibition will be held from Oct. 8th to 11th inclusive, and will not open on Oct. 7th as previously announced. The exhibition is under the management of a committee consisting of Mr. Charles H. Fagge, M.S., Lieutenant-Colonel F. F. Burghard, M.S., Mr. Robert Jones, F.R.C.S., and Mr. J. Y. W. MacAlister, who is also acting as honorary secretary for the committee. We are informed that exhibits are only accepted through the consulting surgeons of district commands, and those desiring to send in exhibits should first submit them to the consulting surgeon of the command of their districts, and they, if they consider them of sufficient importance, will recommend them to the committee.

The Queen and Queen Alexandra have both given their patronage to "Our Day," which is to be held on Oct. 21st on behalf of the work of the British Red Cross Society and the Order of St. John for the British wounded.

Dr. W. H. Willcox has been appointed consulting physician and toxicologist to the Mediterranean Expeditionary Force, with rank of Lieutenant-Colonel, R.A.M.C., the appointment to date from July 9th.

THE WAR EMERGENCY COMMITTEE.—A meeting of the War Emergency Committee was held at the offices of the British Medical Association on Wednesday, Sept. 15th, when there were present Mr. T. Jenner Verrall (in the chair), Sir Rickman Godlee, Dr. Frederick Taylor, Sir James Barr, Major J. Galloway, Mr. E. B. Turner, Major Russell Coombe, Dr. Edwin Rayner, Dr. C. Buttar, Major Albert Lucas, Lieutenant-Colonel R. A. Bolam, Professor Harvey Littlejohn, Professor Shipley, Dr. Dawson Williams, Dr. Squire Sprigge, Dr. J. Neal, Mr. N. Bishop Harman, and Mr. Guy Elliston.

A report was received from the Executive Subcommittee of its work on behalf of the War Emergency Committee since the meeting held on August 25th. The report showed that the subcommittee had met on three occasions and that the formation of local War Emergency Committees had been proceeded with. The organisation of the British Medical Association had been employed in coöperation with well-known practitioners who were not members of the British Medical Association. Dr. Buttar, chairman of the Executive Subcommittee, brought forward for discussion certain recommendations of the subcommittee included in the report. The first of these ran as follows: "That the committee consider in what way men eligible for military service may be approached for enrolment, beyond the action already taken by the Executive Subcommittee." Dr. Buttar said that he thought that enrolment of men under 40 and physically fit was extremely urgent. Looking at the numbers that had been gazetted between July 3rd and Sept. 11th he predicted that if the enrolment proceeded at that rate the Director-General of the Royal Army Medical Corps was not likely to obtain even one-half the number of medical officers that he required by the middle of January, and that number was possibly understated as 2000. Four courses were open: (1) To leave the medical practitioners of suitable age and physique to come forward on their own initiative; (2) to import practitioners from America; (3) to fall back upon conscription; and (4) enrolment by the War Emergency Committee, giving that committee power to select from the names on the list. Under the fourth method the question arose as to whether the selection should be made by the Central Committee or through the local War Emergency Committees.

Sir James Barr pointed out that the War Office age had now been raised to 45, and that the circulars of the War Emergency Committee mentioned the available age as "up to 40," but Professor Littlejohn remarked that in Scotland the circulars of the Scottish War Emergency Committee had gone out naming 40 as the age, and that little difference had resulted. The committee agreed that in future circulars the age should be altered.

Dr. Buttar proposed that the central effort should be made by concerted action through the *British Medical Journal* and *The Lancet*.

Mr. Turner agreed, but thought that advice from the local committees should be received. If the actual selection came through the central body suspicion of invidiousness would be got rid of.

Sir Rickman Godlee urged the importance of not discouraging the local committees, and Sir James Barr illustrated the way in which a local War Emergency Committee could work by detailing the experience of Liverpool, where the necessary men were found by the local committee, but where enrolment might still find more men.

Major Galloway pointed out that enrolment in well-organised places was easy for a local committee. He instanced four localities, saying of them that in one, a particularly well-organised city, the reply to the demand for medical officers to join the army had been splendid; in another it had been fair, but the medical profession was critical; in a third the atmosphere was one of suspicion; and in a fourth the conditions were for the time being hopeless. This being so, he thought that it would be impossible for local committees to find the number of medical men required by the end of January.

Major Albert Lucas approved a proposal to appeal to the medical profession through the medical journals, but pinned his faith rather upon the results of personal appeal and personal canvassing.

Colonel Bolam said that when a district knew the concrete fact of how many men it had to find results followed. Enrolment through the agency of the press would not be likely to be so good.

No resolution to issue forms of enrolment by the War Emergency Committee was arrived at, but it was resolved that where no local committees had been formed, central action would be taken.

A recommendation of the subcommittee was adopted that a letter should be forwarded to the lay press for publication appealing to the public for its coöperation in preserving the interests of civilian practitioners who accept commissions in H.M. Forces.

The question of approaching the various Government departments concerned as to the releasing of practitioners under 45 from the employment of local authorities was discussed, and it was resolved that some of the public bodies concerned—for example, the Home Office, the Local Government Board, the Board of Education, and the Board of Control—should be asked to receive deputations from the Committee on the matter.

Other points in the report of the Executive Subcommittee, which was adopted by the Committee, dealt with the situation of men of military age who were doing war work at home and with the conditions of service of the Royal Naval Volunteer Reserve surgeons.

THE TREATMENT OF THE WOUNDED IN VIENNA.—An interesting account of the medical arrangements for the reception of the wounded at Vienna is published in the *Journal de Genève*. "Under the guidance of the amiable doctor-in-chief," writes the representative of the Swiss journal, "I saw a model organisation. The wounded are examined on their arrival and divided into groups. Those whose condition is apparently contagious are immediately isolated. All bandages are removed and burnt, each man passes to the bathrooms, and afterwards receives clean clothes. In the wards for patients with head wounds were some particularly interesting cases. Soldiers who have been operated on and whose skulls are terribly scarred, or whose frontal bones have been perforated, may be seen cured. Some of them have suffered different forms of paralysis, but in many memory and intelligence are intact. From the Alps many soldiers daily arrive suffering from wounds caused by flying pieces of rock and stones dislodged by the Italian shells. The operating theatres and the Roentgen establishments are wonderfully complete. In the kitchens many ladies who belong to the Viennese aristocracy are helping in the preparation of meals which are made as appetising as possible, while following the rules of the doctors. The Austrian Red Cross Society has risen splendidly to the occasion. Its activities are distinct from those of the Hungarian Red Cross Society. Before the war the society had 73,000 members, whereas to-day it has 225,000, its rôle being to supplement the measures taken by the State and to ameliorate the lot of the wounded and sick at the front, behind the front, and in the base hospitals. Its functions are quite distinct from those of the military medical service. At the front the Red Cross Society has organised and equipped many hospitals and flying relief columns. It has also provided many bacteriological laboratories, transportable baths, disinfection machines, and houses of convalescence. Its railway station first-aid establishments and refreshment rooms form a valuable organisation. At each hour of the day and night the transports of wounded and troops which pass through the stations are inspected by doctors and receive refreshments at the hands of the members of the Red Cross Society—princesses, middle-class women, and high-school girls."

PRINCESS CHRISTIAN BRITISH RED CROSS HOSPITAL.—A new pavilion hospital (military) for 120 beds was opened at Englefield Green on Sept. 11th. The hospital owes its inception to Her Royal Highness Princess Christian, who has collected a large part of the money required, though the British Red Cross Society has contributed £10,000. The general construction of the building, for which Sir John Furley and Mr. W. J. Fieldhouse have been responsible, has followed the lines of the Red Cross Hospital at Netley, but many improvements have been added for the increased comfort of patients and staff. In order that all the patients shall equally share a beautiful view the six pavilions, each containing 20 beds, are placed in a semicircle facing the south. Behind these are arranged 27 other buildings for the staff and for general administration, including an up-to-date operating theatre. There is a plentiful supply of baths for all ranks and the drainage has received special attention. Sir William Taylor, K.C.B., late Director-General of the Army Medical

Service, is the commandant of the hospital, and Major Buckley, R.A.M.C., the assistant commandant. They will be assisted by Dr. J. O. Skevington, Dr. W. W. Floyer, Dr. R. S. Drew, Dr. F. D. Nicholson, and Dr. Martin.

THE COMMISSION FOR RELIEF IN BELGIUM.—The Commission for Relief in Belgium has issued a voluminous report covering the period of about eight months from the inception to June 30th, 1915. The appendices teem with regiments of figures marshalled in columns under the headings of wheat, flour, rice, peas, beans, salt, potatoes, meat, bacon, lard, maize, sundry foodstuffs, clothing, and miscellaneous. The amount of clerical work has evidently been considerable. A few facts require to be set out to grasp the magnitude of the operations. The report states that the exigencies of modern warfare have placed 7,000,000 people in Belgium practically in a state of siege, and by industrial paralysis 2,750,000 people are now reduced to destitution, and another 500,000 would have been destitute, even had food-supplies been available, but for the financial operations of this organisation. 2000 organisations abroad were mobilised for the collection of either gifts of food or money, there was the work of establishing the Commission itself, and then of 4000 separate committees in Belgium to help distribution. Since October local relief committees have been organised in practically every commune, and over these there are the district and provincial committees with the Comité National at the apex. The work of the Commission has been divided into two departments—the Provisioning Department and the Benevolent Department. Up to June 30th the Provisioning Department had either delivered or placed in stock over 600,000 tons of foodstuffs for the Belgian section to the gross value of over £9,400,000. The whole of these foodstuffs are resold to the population, and the profits earned devoted to the support of the destitute. The profits have only been made possible by generous service, and they amount to date to about £987,000.

THE FIGHTING OF TYPHUS FEVER IN SERBIA.—Among the many victories which medicine has gained during the present war not the least is the clearing of Serbia from typhus fever, to which previous allusions have been made in THE LANCET. An Exchange telegram published by the New York United Press briefly recounts an interview with Dr. Richard P. Strong, professor of tropical diseases, Harvard University, and head of the American Mission, in which he states that the number of deaths have been about 100,000. Within four months of the American Red Cross and Rockefeller Institute Sanitary Commission being sent to Serbia the epidemic that threatened the actual existence of the country had been practically overcome. The medical position in Serbia, however, remains anxious as so many medical men have perished in the epidemic, while of the remainder a large number are on active medical service. Speaking of the rapidity with which the work was done Dr. Strong said that some 500 to 600 cases a day were treated, and within four months a total of not less than 60,000 patients had been reached.

THE STOKE WAR HOSPITAL.—An "At Home" given recently at the Stoke War Hospital gave the public an opportunity of inspecting one of the six military hospitals of the Northern Command, whose headquarters are at York. It is the only military hospital between Birmingham and Manchester, and it includes among the buildings which compose it a new children's hospital which had been completed though not occupied when war broke out. Its conversion into a military hospital was, of course, far easier than when workhouses or other establishments, unfitted for hospital purposes, had to be utilised in emergency. The work has been well done, and the authorities are to be congratulated on the success of their efforts. Major Rutherford, R.A.M.C., is the officer in charge, and the consulting surgeon is Colonel Sir Berkeley Moynihan, R.A.M.C.

AMERICAN WOMEN'S WAR HOSPITAL.—It is announced that the American Women's War Hospital at Oldway House, Paignton, will not be closed in consequence of the decision of the American Red Cross to withdraw the nursing units they have hitherto supplied to all the belligerent countries. The American Women's War Relief Fund have taken steps to ensure the continuity of the work of the Oldway House Hospital and a staff of English and American sisters will do duty under an American chief surgeon.

VACANCIES FOR MEDICAL OFFICERS.—There is a vacancy for a house surgeon at a hospital in France. Application should be made to the Wounded Allies Relief Committee, Sardinia House, Kingsway, W.C.

The 59th Divisional Casualty Clearing Station, now stationed at Derby, requires three medical officers. Those desiring to serve with a unit of this nature should apply to the officer commanding the station, 91, Siddals-road, Derby.

Medical News.

THE LIQUOR CONTROL REGULATIONS IN EDINBURGH.—The police returns for the city of Edinburgh for August are of interest, particularly in so far as they deal with drunkenness in the city during that month. We are enabled to give the figures affecting cases of drunkenness dealt with by the police in the course of the month, with the figures for the corresponding period of last year. The new Liquor Control Regulations were in operation for almost one-third of last month. The total number of cases of drunkenness dealt with in Edinburgh during August, 1914, was 685, for the month of August, 1915, 344, a decrease of 341, or practically 50 per cent. The decrease has been more striking amongst men than amongst women. Whereas there were 261 male incapables in August of last year, the figures for August, 1915, were 140, and of female incapables there was a decrease in favour of August, 1915, to the extent represented by the difference between 89 and 72. Altogether so far as incapables were concerned, the figures were: August, 1914, 350; August, 1915, 212; decrease 138. One of the most noticeable features of the returns is to be found in the figures relating to disorderly cases. In August, 1914, 180 men and 83 women came under that head; in August, 1915, only 53 men (a decrease of 127) and 50 women (a decrease of 33) were classed as disorderly, the total being 103, a decrease in that class of 160. There was practically no change in the number of cases of drunkenness while in charge of a vehicle or a child. In August, 1914, 12 men and 9 women were involved in such offences, and in August, 1915, the figures were 15 men and 9 women. The extraordinary reduction in the number of disorderly cases seems to indicate an improvement in general conduct which was bound to be reflected in other sections of the returns. This becomes apparent in the figures affecting offenders drunk and attempting to enter a public house. In August of last year there were 51 such cases; in August, 1915, 7. The offenders in 1914 included 48 men and 3 women, in 1915 no women were involved in an offence of this class. The decrease in drunkenness represented in the returns is most evident in the case of men. In August, 1914, 501 men and 184 women were concerned in the various offences of the various classes grouped under drunkenness; in August, 1915, the number of men was 213 (a reduction of 288) and of women 131 (a reduction of 53).

NATIONAL ASSOCIATION FOR THE PREVENTION OF INFANT MORTALITY AND FOR THE WELFARE OF INFANCY.—A special course of lectures on infant care will be held at the Royal Society of Medicine, 1, Wimpole-street, W., on Tuesdays, from 3 to 4 P.M., from Oct. 5th to Dec. 21st, with the exception of the first lecture, which will be given in the theatre of the Royal College of Surgeons, Lincoln's Inn-fields, W.C. Medical practitioners and students are invited to attend any or all of these lectures, though the lectures will be mainly directed to the instruction of nurses and midwives. The lecturers will include Professor Arthur Keith, Dr. Amand Routh, Dr. Eardley Holland, Mrs. Florence Willey, M.D., Dr. Eric Pritchard, Dr. David Forsyth, Dr. Frederick Langmead, Dr. H. C. Cameron, Dr. John Rolleston, Dr. W. G. Savage, Mr. Macleod Yearsley, and Mr. Treacher Collins.

THE EUGENICS EDUCATION SOCIETY.—Dr. J. A. Lindsay, professor of medicine at Queen's University, Belfast, will deliver a lecture on Eugenics and the Doctrine of the Super-man before the Eugenics Education Society on Oct. 7th, at 5.15, at the Grafton Galleries, W. Application for tickets should be made to the honorary secretary, Kingsway House, Kingsway, London, W.C.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND UNWIN, London.
The War and the Balkans. By Noel Buxton, M.P., and Charles Roden Buxton. Price 1s. net.

ARNOLD, EDWARD, London.
A Manual of Pharmacology. By Walter E. Dixon, F.R.S., M.A., M.D., Professor of Materia Medica and Pharmacology at King's College, London; University Lecturer in Pharmacology, Cambridge; Examiner in Pharmacology in the Universities of Oxford and Cambridge. Fourth edition, completely revised. Price 15s. net.

BELL, G., AND SONS, London.
Maternity. Letters from Working Women. With a Preface by the Right Hon. Herbert Samuel, Postmaster-General, late President of the Local Government Board. Price 2s. 6d. net.

CASSELL AND CO., LIMITED, London, New York, Toronto, and Melbourne.
Diseases of the Nervous System. By H. Campbell Thomson, M.D. Lond., F.R.C.P., Physician to the Department for Diseases of the Nervous System and Lecturer on Neurology, Middlesex Hospital; Dean of the Middlesex Hospital Medical School; Physician to the Hospital for Epilepsy and Paralysis, Maida Vale. Second edition, revised and enlarged. Price 10s. 6d. net.

EDUCATIONAL PUBLISHING COMPANY, Penarth-road, Cardiff.
Third Annual Report of King Edward VII. Welsh National Memorial Association (1915).

GREEN, W., AND SON, Edinburgh and London.
Encyclopædia Medica. Under the General Editorship of J. W. Ballantyne, M.D., C.M., F.R.C.P.Edin. Second edition. Vol. II. Aspiration to Chlorodyne. Price 20s. net.

HEINEMANN, WILLIAM, London.
Fibrositis (Gouty, Infective, Traumatic). By Ll. Jones Llewellyn, M.B. Lond., and A. Bassett Jones, M.B. Lond. Price 25s. net.

JENKINS, HERBERT, 12, Arundel-place, Haymarket, S.W.
Year Book of the Universities of the Empire, 1915. Price 7s. 6d. net.

LIPPINCOTT, J. B., COMPANY, Philadelphia and London.
Blood Pressure in General Practice. By Percival Nicholson, M.D. Third edition. Price 6s. net.
Applied Anatomy. By Gwilym G. Davis, M.D., Pennsylvania and Goettingen, M.R.C.S. Eng., LL.D. Lafayette. Third edition. Price 24s. net.
Simplified Infant Feeding. By Roger Bennett, B.S., M.D. Price 12s. 6d. net.

MACMILLAN AND CO., London.
Alcohol and the Human Body. By Sir Victor Horsley, F.R.S., F.R.C.S., &c., Major, R.A.M.C., Mary D. Sturge, M.D. Lond., Arthur Newsholme, C.B., M.D., &c., and Sir Leonard Rogers, K.C.I.E., Lieutenant-Colonel, I.M.S. Fifth edition, enlarged Price 1s. net.

MAYNE, BOYD AND SON, AND WILLIAM MULLAN AND SON, Belfast.
Beri-Beri: its Etiology, Symptoms, and Treatment. By Espine Ward, M.D., B.Ch., B.A.O.

MELROSE, ANDREW, LIMITED, London.
The Diary of a French Army Chaplain. By Abbé Félix Klein, American Hospital, Paris. Price 3s. 6d. net.

METHUEN AND CO., London.
Diversions of a Naturalist. By Sir Ray Lankester, K.C.B., F.R.S. Price 6s.

MURRAY, JOHN, London.
Handbook of Physiology. By W. D. Halliburton, M.D., LL.D., F.R.C.P., F.R.S., Professor of Physiology, King's College, London. Twelfth edition. Price 15s. net.

POTTER AND CLARKE, Artillery Lane, London.
Potter's Cyclopædia of Botanical Drugs and Preparations. By R. C. Wren, F.L.S. With additions by E. M. Holmes, F.L.S. Second edition.

SAMPSON LOW, MARSTON, AND CO., London.
Low's Handbook to the Charities of London, 1915. Price 1s. net.

SAUNDERS, W. B., COMPANY, London.
The Medical Clinics of Chicago. July, 1915. Vol. I., No. 1. Price per year of six numbers: Paper, 35s. net; cloth, 50s. net.
The Care of the Baby. By J. P. Crozer Griffith, M.D., Professor of Pediatrics in the University of Pennsylvania. New sixth edition, thoroughly revised. Price, cloth, 6s. 6d. net.
A Manual of the Practice of Medicine. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine in the Women's Medical College of Pennsylvania. New tenth edition, thoroughly revised. Flexible leather, 12s. 6d. net.

STANFORD, EDWARD, London.
British Rainfall, 1914. By Hugh Robert Mill and Carle Salter, Director and Assistant Director of the British Rainfall Organisation. Price 10s.

THE MACMILLAN COMPANY, New York.
The Gynecology of Obstetrics: an Exposition of the Pathologies Bearing Directly on Parturition. By David Hadden, B.S., M.D. Price 17s. net.

THE SOUTHWARK COMPANY, Troy, New York.
Stereoroentgenography. Parts I.-IV. By James T. Case, M.D., and Dr. Howard Kelly.

UNITED COUNCIL FOR MISSIONARY EDUCATION, 8, Paternoster-row, London.
The Way of the Good Physician. By Henry T. Hodgkin, M.A., M.B. Price 1s. net.

UNIVERSITY OF LONDON PRESS, London.
Wound Infections and Some New Methods for the Study of the Various Factors which come into Consideration in their Treatment. By Colonel Sir Almroth E. Wright, M.D., F.R.S., Consulting Physician to the Expeditionary Force. Price 2s. 6d. net.

YEAR BOOK PUBLISHERS, Chicago.
Practical Medicine Series. Vol. IV. Gynecology. Edited by Emilius C. Dudley, A.M., M.D., and Herbert M. Stowe, M.D. Series 1915. Price $1.35.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

MURPHY, J. E., L.R.C.P. & S. Edin., has been appointed House Physician to the South Infirmary, Cork.

WILLIAMS, H. O., M.B., B.S. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Milford Haven District of the county of Pembroke.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).
When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor.

ALTON, HANTS, LORD MAYOR TRELOAR CRIPPLES' HOSPITAL.—Assistant Resident Medical Officer.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, residence, and washing.

BEXLEY, KENT, LONDON COUNTY ASYLUM.—Locum Tenens Medical Officer. Salary 6 guineas a week, with quarters, board, and washing.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer, unmarried. Salary £250 per annum, with apartments, fire, light, and attendance.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House Surgeon. Salary £100 per annum, with residence, board, &c.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—Senior House Surgeon, unmarried. Salary £140 per annum, with War Bonus at rate of £60 per annum, with board, residence, and laundry. Also Junior House Surgeon and Assistant House Surgeon, unmarried. Salary £80 per annum, with War Bonus of £60 per annum, with board, residence, and laundry.

BRISTOL ROYAL INFIRMARY.—House Physicians and House Surgeons. Salary at rate of £120 per annum, with board, apartments, and laundry. Also Dental House Surgeon for six months. Salary at rate of £120 per annum, with apartments, board, and laundry.

BUXTON, DEVONSHIRE HOSPITAL, Derbyshire.—Assistant House Physician for six months. Salary at rate of £100 per annum, with apartments, board, and laundry.

CAMBRIDGESHIRE ASYLUM, Fulbourn, near Cambridge.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, washing, and attendance.

CARDIFF, KING EDWARD VII.'s HOSPITAL.—House Surgeon for six months. Salary at rate of £140 per annum, with board, residence, and laundry. Also Student-Dressership for three months. Salary at rate of £26 per annum, with board, residence, and laundry.

DUBLIN, ROYAL COLLEGE OF SURGEONS IN IRELAND.—Senior Assistant to Professor of Anatomy. Salary £200 per annum.

ESSEX, BRENTWOOD ASYLUM.—Female Dispenser. Salary £90 per annum, with dinner and tea.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Clinical Assistants in Out-patient Department.

EXETER, WESSEX DIVISION FIELD AMBULANCE, R.A.M.C. (T.F.).—Commissions.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Surgeon for six months. Salary as arranged, with board, residence, and laundry.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £200 per annum, with board, lodging, and washing.

HUDDERSFIELD ROYAL INFIRMARY.—Assistant House Surgeon. Salary £100 per annum, with board, residence, and washing.

KENT, INGRESS ABBEY MILITARY HOSPITAL, Greenhithe.—House Surgeon. Salary at rate of 6 guineas per week, with board and lodging.

LEEDS PUBLIC DISPENSARY.—Female Resident Medical Officer. Salary £130 per annum, with board, residence, and laundry.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—Two Female Resident Surgeons for six months. Salary at rate of £100 per annum, with board.

LIVERPOOL STANLEY HOSPITAL.—Resident House Surgeon.

LOCHGOILHEAD AND KILMORICH PARISH.—Temporary Medical Officer and Vaccinator. Salary £100 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Resident Medical Officer and Assistant Resident Medical Officer. Salary at rate of £200 and £120 per annum respectively, with board, residence, &c.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST, Bowdon, Cheshire.—Resident Medical Officer for In-patient Department. Salary £300 per annum, with board, apartments, washing, &c.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £250 per annum, with apartments, attendance, &c.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer, unmarried. Salary £150 per annum, and War Bonus of £75 per annum, with board and residence. Also Honorary Pathologist to the Infirmary and Dispensary.

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL.—House Surgeon. Salary £150 per annum, with board, residence, and washing.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Senior House Surgeon for six months. Salary £150 per annum, with board, residence, and laundry. Also Female Resident Surgeon. Salary £120 per annum, with board, apartments, and laundry.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—Lecturer in Anatomy.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, W.C.—Resident Medical Officer. Salary £100 per annum, with board and residence. Also Female Superintendent. Salary £120 per annum.

NORWICH CITY.—Temporary Assistant School Medical Officer. Salary at rate of £400 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—District Resident Medical Officer for four months. Salary at rate of £60 per annum, with board, residence, and washing.

REETH UNION AND RURAL DISTRICT COUNCIL, Yorkshire.—Medical Officer (Muker District) and Medical Officer of Health (whole District). Salary £45 and £50 respectively.

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—Assistant Surgeon to Out-patients.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Pathologist. Also Director of Pathological Studies in the London (R.F.H.) School of Medicine for Women. Salary £400 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Two Refraction Assistants. Salary at rate of £50 per annum.

ST. ANDREW'S HOSPITAL, Dollis Hill, London, N.W.—Resident Medical Officer. Hospital salary and allowances and army pay.

SHREWSBURY, ROYAL SALOP INFIRMARY.—House Physician. Salary at rate of £120 per annum, with board, residence, and laundry.

SOUTHAMPTON, PARISH INFIRMARY, Shirley Warren.—Resident Assistant Medical Officer. Salary £250 per annum, with apartments, rations, washing, and attendance.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary £150 per annum, with rooms, board, and washing.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—House Surgeon. Salary £150 per annum, with residence, board, and washing.

SOUTHWARK UNION INFIRMARY, East Dulwich Grove, S.E.—Temporary Assistant Medical Superintendent. Salary at rate of £300 per annum, with board, apartments, and washing.

SURREY COUNTY ASYLUM, Brookwood, near Woking.—Locum Tenens Medical Officer. Salary £6 6s. per week, with board, lodging, and laundry.

SWANSEA EDUCATION COMMITTEE.—Two Temporary Assistant School Medical Officers. Salary in each case £300 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant House Surgeon, unmarried. Salary £120 per annum, with residence, board, and laundry.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Resident House Surgeon. Salary as arranged.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Resident Medical Officer. Salary £160 per annum. Also House Physicians and House Surgeons. Salary £120 and £100 per annum respectively, with board, residence, and washing.

WESTMINSTER GENERAL DISPENSARY, 9, Gerrard-street, Soho, W.—Resident Medical Officer. Salary £120 per annum, with rooms, gas, coals, and attendance.

WESTMORLAND SANATORIUM, Meathop, Grange-over-Sands.—Second Assistant to Medical Superintendent. Salary £200 per annum, with board and laundry.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £150 per annum, with board, apartments, and washing.

WORCESTER COUNTY AND CITY ASYLUM.—Assistant Medical Officer. Salary £250 and all found.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board, residence, and laundry.

YORK COUNTY HOSPITAL.—Resident Medical Officer. Salary £150 per annum, with board, residence, and laundry.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Dalmellington, in the county of Ayr; and at Hereford, in the county of Herefordshire.

Births, Marriages, and Deaths.

BIRTHS.

BALLANCE.—On Sept. 11th, at Talbot-square, Hyde Park, the wife of Alaric Charles Ballance, M.R.C.S., L.R.C.P. Lond., Anson Battalion, Royal Naval Division, of a son.

BARNES.—On Sept. 12th, at Hill House, Eye, Suffolk, the wife of Henry B. Barnes, M.D. Lond., of a daughter.

SAVAGE.—On Sept. 9th, at Princes-street, Auckland, N.Z., to Madeline, widow of Major Thomas Copeland Savage, F.R.C.S., a daughter.

MARRIAGES.

LEE—FARNWORTH.—On Sept. 11th, at St. Martin-in-the-Fields, Crichton Stirling Lee, Lieutenant, R.A.M.C. (T.), to Olive, daughter of the late Ernest and Mrs. Farnworth, of Broadlands, Wolverhampton.

LIDDELL—BOND.—On Sept. 2nd, at All Souls, Langham-place, John Liddell, M.B., C.M., of Errol, Perthshire, to Margaret, daughter of Dr. J. W. Bond, of Pepys-road, New Cross, London.

TOPHAM—DAY.—On Sept. 8th, at St. Nicholas's Church, Sidmouth, John Arthur Topham, M.R.C.S., M.R.C.P., of Chartham Down, Canterbury, to Marguerite Ethel, fourth daughter of the late John Day, of Stockbridge, Hants, and Mrs. Day, late of Elvaston, Bournemouth.

WHITEHEAD—DUNPHY.—On Sept. 11th, at Belvedere, Brian Whitehead, Lieutenant, R.A.M.C., to Winifred Florence, eldest daughter of James Overton Dunphy, of Park Lodge, Belvedere.

DEATHS.

HAYES.—On Sept. 6th, at Suez, Arthur J. Hayes, L.S.A. Lond., Medical Officer, Quarantine, Suez.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HELPING THE BLIND.

IN the *Record* for September, a journal for the Hampstead Garden Suburb, there is an interesting account by Miss M. E. Harris Browne of the way she has helped some blind women to do work for themselves and the war. Miss Browne says that only to the isolated blind woman, living at a distance from any workshop, or not strong enough to face the daily journey and a crowded room, the war demand seemed to have brought no hope. She may have lost her sight late in life, or have spent years in a blind-school and been turned out a proficient hand and machine knitter, with skill enough to secure a measure of independence and occupation which means so much to a blind person. But through want of practice she quickly forgets what she has learnt and loses heart and the desire to work. Attempts to help her have failed hitherto, because there has not been sufficient demand for her work to encourage her to keep it up to a marketable standard. Last August Miss Browne and her sister saw a chance of achieving two objects: (1) To convince the public that work done by the blind can be as good as that done by seeing people, and that it is misplaced kindness to accept anything else from them; (2) to organise the scattered home workers in and around London and train them to turn out work which should have a marketable value, both during the war and afterwards. 2000 pairs of strong, well-made marching socks have been supplied for the army and navy during the past year directly from these home-workers. "In training our knitters," says Miss Browne, "we have had one standard, perfection, and one rule, never to admit that a blind girl cannot do everything as well as, or better than, a sighted girl. The socks that came to us in the early days from knitters who claimed that they 'could make anything' were pathetic in their uselessness. We were obliged to train by post in the raised type which the blind read. Socks came back time after time, still useless, but with the faults corrected, the knitter gradually learning, until at last she is able to turn out work of which we are all proud. She now understands the necessity for perfect work and that there must be no knots or hard ridges in socks that are going to the front. By turning out only good work, they are helping themselves and each other. For the first time many of them feel of real use as workers and no longer a burden to the community." The scheme does not affect any girl who could get employment otherwise, and if she has any chance of private orders she is encouraged to do all she can for herself, only taking work in her spare time. Miss Browne is employing on these terms 10 girls and women, and 17 others, as regular workers (hand and machine). She still depends, to a great extent, on private customers for orders, and asks for more help in that way. Her address is 171, Queen's-gate, London, S.W.

THE PREVENTION OF TYPHOID FEVER.

AT Dundee recently a discussion took place in connexion with a report made to the Public Health Committee upon an outbreak of typhoid fever traced to a farm whence all those affected had been supplied with milk. It was stated that a man working at this farm had suffered from the disease in July, and the medical officer of health was asked whether, in view of the possibility of his being a fever-carrier, steps could not be taken to prevent this man from dealing with food in the future. The reply was given that no such power existed. The man when last examined had completely recovered, and the most that could be done would be to find him other employment and to induce him to accept it. It was decided that the case should be watched.

WASTAGE OF INFANT LIFE.

IN 1904-5 Mr. Benjamin Broadbent was Mayor of Huddersfield, and offered to present each child born in Longwood, a district with which he is particularly identified, during his year of office with a sovereign on its attaining the age of 12 months. His offer created widespread interest at the time, and resulted in his giving out 112 promissory notes, to be redeemed on the child attaining the age of 12 months, of which 107 were presented for payment. Of the remaining five, four died and one had removed from the district, and as the money had not been claimed the child was presumed to be dead. He was assisted in the scheme by Dr. S. G. Moore, the medical officer of health. A few days ago he held a garden party at his residence, Gatesgarth, Lindley, Huddersfield, to the "Mayor's Sovereign Babies,"

as they had come to be known. His guests numbered 88. A few children could not be present, and some could not be traced owing to removals. Mr. Broadbent's offer ten years ago caused increased attention to be given to the health of the local babies, and in the one year the infantile death-rate at Longwood was reduced from 122 per 1000 births to below 50, while in the rest of Huddersfield the figure was 139, about the same as in the previous year, and it was claimed that the experiment demonstrated that a huge saving in infant life could be effected. The infant death-rate is now 96. Another result was the establishment of the Huddersfield and District Public Health Union, a voluntary organisation which by a band of voluntary lady workers undertakes, where necessary, the supervision of all infants. The wastage of infant life is now a very topical subject of attention, and Mr. Broadbent's garden party recalls the interesting efforts of a practical pioneer in its prevention.

GANGRENOUS WOUNDS TREATED WITH ARTIFICIAL GASTRIC JUICE.

IN an analytical column in our issue of May 1st we referred to a preparation called "enzymol" which showed great proteolytic activity, and this is the reason why its application to gangrenous wounds facilitates the removal of septic matter by irrigation. Messrs. Fairchild Brothers and Foster, of Albert Chambers, 64–65, Holborn Viaduct, London, E.C., the makers of "enzymol," have drawn our attention to an article which appeared in a German medical journal in which the writer describes his experience in the field treating gangrenous wounds with artificial gastric juice, implying novelty in the method. Messrs. Fairchild point out that if gastric juice as a surgical solvent is to be called by anybody's name it ought to be that of "Fairchild" as they were the first to prepare a juice for this express purpose. Enzymol has been in use for 20 years, while the German product is of quite recent origin.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye.

TUESDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. Mr. Pardoe: Operations.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

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METEOROLOGICAL READINGS.

(Taken daily at 9.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 15th, 1915.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 9	30·274	E.	...	107	73	59	60	61	Fine
,, 10	30·300	E.	...	115	70	54	57	59	Fine
,, 11	30·200	E.	...	111	65	53	55	59	Fine
,, 12	30·120	E.	...	115	75	53	54	57	Fine
,, 13	29·930	S.E.	...	107	74	52	56	59	Fine
,, 14	29·990	W.	0·03	90	65	57	55	57	Overcast
,, 15	30·130	W.	...	116	73	57	58	61	Fine

The following magazines, journals, &c., have been received:—American Journal of Roentgenology, Homœopathic Recorder, Annales de Gynécologie et d'Obstétrique, Revista Medica del Uruguay, Midland Medical Journal, Archives of Pediatrics, Birmingham Medical Review, Revista de la Asociación Medica Argentina, Surgery, Gynecology and Obstetrics, Bulletin of the Johns Hopkins Hospital, Archives of Radiology and Electrotherapy, Albany Medical Annals, Maryland Medical Journal.

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